

**Student-Directed Assessment**  
**as a learning process for primary students:**  
**A mixed-methods study**

Anna Ingrid Katarina Fletcher

School of Education

Faculty of Law, Education, Business and Arts

Charles Darwin University

Submitted in fulfilment of the requirement of the degree of

Doctor of Philosophy

April, 2015



## ABSTRACT

Contemporary learning requires that students develop their capacity to play an active role in their own learning. Drawing on Assessment for Learning principles from a perspective of social cognitive theory, this study examines how assessment can be used as a learning process in which students develop skills and competence as self-regulated learners.

Conducted at an independent primary school in the Northern Territory, in Australia, as a one-setting, cross-sectional form of practitioner research, the study used a simultaneous design in which qualitative and quantitative data were given equal priority. The study involved 256 students from years 2, 4 and 6, together with 16 teachers. Open-ended questionnaires and semi-structured interviews were used to explore teachers' and students' perceptions of Student-Directed Assessment (SDA), combined with a quasi-experimental phase, which provided the basis for the study's quantitative analysis.

Positioned in an area of overlap among formative assessment pedagogy, Self-Regulated Learning, agentic engagement, and creativity, the thesis puts forward four key insights, in respect of the study's overarching question: 'How does Student-Directed Assessment shape learning?'

First, when given support and the opportunity, students direct their learning by making novel, yet appropriate task choices as they address the targeted learning outcomes.

Second, with support and scaffolding, students actively seek to be creative and take

sensible risks in their learning.

Third, as directors of the learning process, students' confidence in their ability to complete tasks serves as a springboard from which they further their will and skills to learn.

Fourth, with support and scaffolding, students who direct their assessment demonstrate a higher degree of achievement compared to students who are given less choice.

By conceptualising assessment as learning through a lens of triadic reciprocity, which combines students' intrapersonal factors, syllabus outcomes and the situational classroom context, this thesis presents a broadened view of assessment as learning.

**STATEMENT OF ORIGINALITY**

*This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person, except where due reference is made in the thesis itself.*

*I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying online via the University's Open Access repository eSpace.*

Anna Ingrid Katarina Fletcher

Anna Fletcher

6/9/15

Signature

Date



## ACKNOWLEDGEMENTS

The completion of this thesis would not have been possible without the patience, guidance and support of several people.

Many thanks to the three members of my supervision panel—each of you have significantly contributed with your wide range of skills and knowledge. First, thanks to my principal supervisor, Associate Professor Greg Shaw, whose guidance and encouragement have seen this project through to its completion. Your interest, humour and mentorship have motivated me to persist with the challenges of undertaking this study. Thank you also for introducing me to fellow travellers on the learning journey, such as Susana Saffu, who has become a very close friend.

I would also like to express my gratitude to my associate supervisor, Dr Gretchen Geng, whose insightful ideas and patience with teaching me basic statistics have been much appreciated. Many thanks also go to my other associate supervisor, Dr Sue Smith, for her enthusiasm, support and constructive feedback, which have been very helpful.

Thanks to Margaret McNally for proofreading this thesis, in accordance with the *Australian Standards for Editing Practice* and the Institute of Professional Editors' 'Guidelines for editing research theses'.

I would also like to express my gratitude to David Cannon, together with my teaching colleagues and the students at the school where the research was conducted. Your support has been essential to this study.

Last, but certainly not least, I wish to express my heartfelt thanks to my husband, Robert, for being the truly supportive, constructive, creative and clever person he is. I would also like to thank my mother for all of her support, and dedicate this thesis to the memory of my father, who cherished education but never had the opportunity to pursue his studies further.

## TABLE OF CONTENTS

ABSTRACT	III
STATEMENT OF ORIGINALITY	V
ACKNOWLEDGEMENTS	VI
TABLE OF CONTENTS	IX
GLOSSARY	XVIII
<b>Chapter 1: Contextualising Student-Directed Assessment</b>	<b>1</b>
<hr/>	
Chapter organisation	1
Introduction	1
Setting the scene	2
Motivation to conduct the study	4
Setting	6
Limitations and significance	7
Generations of assessment practice	8
A new generation of assessment practice	14
Social cognitive theory	16
Self-Regulated Learning	18
Self-assessment	19
Agentic engagement	21
Clarifying the term ‘Student-Directed Assessment’	21
The Student-Directed Assessment alternative	22
Research focus	23
Mixed-methods study questions	24
Thesis outline by chapter	25
<b>Chapter 2: Assessment as a policy tool</b>	<b>31</b>
<hr/>	
Chapter organisation	31
Framing the situation: assessment for accountability	32
Benchmarks and the Australian accountability agenda	33
A central focus: a national curriculum	35
The National Assessment Program – Literacy and Numeracy	40
The My School website	44
Widened perspectives: education, assessment and globalism	48
Standardised assessment in the global context	49

International assessment achievements of Hong Kong, South Korea and Finland	53
Hong Kong's broadened approach to learning	54
Education reform in South Korea	60
Teachers as important individuals: Finnish approaches	65
Intelligent accountability in Finland	68
Teacher-centred or student-centred? A personal reflection	70
Key understandings in this chapter	73
<b>Chapter 3: Review of literature to inform the study</b>	<b>75</b>
<hr/>	
Chapter organisation	75
<b>THREAD 1: STUDENTS AS AGENTS IN THE LEARNING PROCESS</b>	<b>77</b>
Forethought as an influence on students' cognitive and affective domain	80
Setting goals	83
Scaffolded help-seeking	88
Self-efficacy and competence perception	90
Learning actions to foster students' agency in the assessment process	94
Scaffolding	95
Analysing tasks	97
Monitoring learning	101
Feedback to enhance learning	102
<b>THREAD 2: USING ASSESSMENT TO MOTIVATE LEARNING</b>	<b>107</b>
Building blocks of motivation	107
Self-efficacy as a motivating factor	108
Self-determination theory	110
Interest as a concept	114
Engagement as a multidimensional construct	116
Situational contexts supporting students' motivation	122
Task value: a facilitator for motivation	123
Scaffolding for engagement: complex tasks	126
<b>THREAD 3: USING ASSESSMENT TO DEVELOP CREATIVE THINKING SKILLS</b>	<b>127</b>
What is 'creativity'?	128
Scales of creativity	130
Creativity with a 'little-c' and a 'mini-c'	131
Intrapersonal influences on creativity: creativity resources	132
Intellectual abilities and personality traits	134

Motivation to drive creativity	136
Learning actions which help creativity	137
Fostering students' creativity in a situational context	138
GAPS AND TENSIONS IN UNDERSTANDINGS THAT INFORM THE STUDY	141
Next chapter	143
<b>Chapter 4: Methodology</b>	<b>145</b>
<hr/>	
THEORETICAL PERSPECTIVES	145
The purpose of a mixed-methods approach	148
DESIGN	149
Method of inquiry	150
Study setting	152
The role of the researcher	153
Participants and sample considerations	155
Ethical considerations	157
DATA COLLECTION	158
Instruments	158
Initial survey	159
SDA planning template	159
Interviews	160
Follow-up emails from teachers	161
Writing samples	161
PROCEDURE OF DATA COLLECTION	161
Preparation phase	161
Developing the SDA planning template	163
Project phase	164
The writing project	165
Semi-structured interviews	167
DATA ANALYSIS	169
Transcription using voice-recognition	169
Qualitative data analysis	171
Statistical analysis using the NAPLAN marking rubric	174
Final stage of analysis	178
LIMITATIONS	179
Reliability and measurement validity	180

Validity	181
My pragmatist ponderings	184
Next chapter	185

---

**Chapter 5: How Student-Directed Assessment fosters creative thinking 187**

---

Parameters of the mixed-methods results	188
Background and definition of creativity	189
AUDIENCE	192
Strategic plans to engage a target audience	195
Statistical results in the Audience criteria	198
Similarities and differences among the three year groups	203
IDEAS	204
The self	206
Imagination to develop meaning	209
Identity	212
Unexpected topics	215
Differences in students' progress in the Ideas criteria	217
Implication of Ideas findings	219
CHARACTER AND SETTING	220
Statistical findings for Character and Setting	222
The SDA students' choice of writing repertoire	224
Key understandings of using assessment to foster creative thinking	229

**Chapter 6: How students develop strategies and competence using Student-Directed Assessment 233**

---

Defining competence	233
A range of competence considerations: technical aspects of writing in the NAPLAN criteria	235
Competence and self-efficacy	236
LEARNING STRATEGIES NEEDED TO DEVELOP TEXT STRUCTURE COMPETENTLY	238
Feedback and point-of-need teaching to promote competence: benefits of and challenges with SDA	244
Teachers' reflections about students' competent use of text types in the SDA	249
Differences in results in the Text Structure criteria	251

LEARNING STRATEGIES NEEDED TO DEVELOP PARAGRAPHS COMPETENTLY	253
Comparison of students' paragraph scores	256
LEARNING STRATEGIES NEEDED TO STRUCTURE SENTENCES COMPETENTLY	258
Students' awareness of sentence structure in the planning templates	260
Comparison of Sentence Structure scores	261
LEARNING STRATEGIES NEEDED TO DEVELOP COHESIVE TEXTS	264
Text connectives	265
Cohesion and competence	265
Cohesion identified as a goal in students' planning templates	267
The NAPLAN Cohesion criteria	269
Comparison of Cohesion scores	269
LEARNING STRATEGIES NEEDED TO DEVELOP COMPETENT PUNCTUATION	271
Punctuation in the NAPLAN rubric	272
Punctuation goals on the planning templates	272
Comparison of results in the Punctuation criteria	274
The punctuation criteria and the merits of mixed-methods research	275
LEARNING STRATEGIES NEEDED TO DEVELOP COMPETENT USE OF VOCABULARY	276
Vocabulary goals on the planning templates	277
Statistical findings in the Vocabulary criteria	277
Teachers' choices and behaviour: a situational influence on the students' learning	279
LEARNING STRATEGIES NEEDED TO SPELL COMPETENTLY	284
The NAPLAN marking criteria for Spelling	284
Spelling competence as a mechanical skill	285
Comparison of Spelling scores	286
KEY UNDERSTANDINGS	288
<b>Chapter 7: Using assessment to motivate and engage students</b>	<b>291</b>
<hr/>	
ENGAGEMENT AS A MULTIDIMENSIONAL CONSTRUCT	292
Behavioural engagement	293
Cognitive engagement	293
Emotional engagement	296
Agentic engagement	297
MOTIVATIONAL DETERMINANTS	299
Self-efficacy	301
Self-efficacy, agentic engagement and chosen action	301

Self-efficacy and students exceeding teachers' expectations	306
Self-efficacy, pride and perseverance	311
Pride and perseverance	312
Engaging boys and helping students with low confidence to develop self-efficacy	313
Intrinsic and extrinsic motivation integrated: pride in meaningful accomplishment	315
Clarity of task facilitates pride	318
OWNERSHIP OF LEARNING	320
Supporting learning: help-seeking and feedback	323
KEY FINDINGS OF USING ASSESSMENT TO ENGAGE AND MOTIVATE LEARNERS	327
Insights as a practitioner–researcher	330

---

**Chapter 8: So how does Student-Directed Assessment affect learning? :  
Bringing key understandings together 331**

---

KEY INSIGHTS	331
Key finding 1: When given support and the opportunity, students direct their learning by making novel, yet appropriate task choices as they address the targeted learning outcomes	332
Contribution to existing knowledge	335
Key finding 2: With support and scaffolding, students actively seek to be creative and take sensible risks in their learning	336
Contribution to existing knowledge	339
Key finding 3: As directors of the learning process, students' confidence in their ability to complete tasks serves as a springboard from which they further their will and skills to learn	340
Contribution to existing knowledge	343
Key finding 4: With support and scaffolding, students who direct their assessment demonstrate a higher degree of achievement compared to students who are given less choice	344
Contribution to existing knowledge	346
CREATIVITY, COMPETENCE AND ENGAGEMENT IN A TRIADIC FRAMEWORK	348
The teachers' role	352
RECONCEPTUALISING ASSESSMENT: IMPLICATIONS FOR TEACHING AND LEARNING	356
Intelligent accountability	358

Limitations	358
Recommendations	359
A personal concluding remark	360
APPENDICES	363
Appendix A: CDU Human Research Ethics Committee Clearance	363
Appendix B: Information to Principal	365
Appendix C: Principal's Consent Form	368
Appendix D: Consent form for Parents/ Guardians	369
Appendix E: Student Consent Form	370
Appendix F: Student Interview Script	371
Appendix G: Teacher Interview Script	373
Appendix H: Year 2 SDA planning template	375
Appendix I: Year 4 SDA planning template	379
Appendix J: Year 6 SDA planning template	383
Appendix K: NAPLAN Narrative Marking Rubric (Ministerial Council on Education, Employment, Training and Youth Affairs, 2008b)	387
REFERENCES	397

## Tables

Table 4.1: Data collection – students (pseudonyms).....	168
Table 4.2: Data collection – teachers (pseudonyms).....	169
Table 4.3: Codes.....	173
Table 4.4: Classification, score range and skill focus of the NAPLAN criteria.....	175
Table 5.1: Intended audiences identified in the SDA students’ planning templates.....	194
Table 5.2: Difference between SDA and TDA students’ pre-test and post-test Audience scores .....	200
Table 5.3: Difference from pre-test to post-test in students’ Audience scores .....	200
Table 5.3: Difference between SDA and TDA students’ pre-test and post-test scores in Ideas .....	218
Table 5.4: Difference from pre-test to post-test in students’ Ideas scores.....	218
Table 5.5: Difference between SDA and TDA students’ pre-test and post-test scores in Character and Setting.....	223
Table 5.6: Difference from pre-test to post-test scores in Character and Setting.....	223
Table 6.1: Difference between SDA and TDA students’ pre-test and post-test scores in Text Structure.....	252
Table 6.2: Difference from pre-test to post-test scores in students’ Text Structure scores .....	252
Table 6.3: Difference between SDA and TDA students’ pre-test and post-test Paragraph scores .....	257
Table 6.4: Difference from pre-test to post-test scores in students’ Paragraph scores.....	257
Table 6.5: Difference between SDA and TDA students’ pre-test and post-test scores in Sentence Structure.....	262
Table 6.6: Difference from pre-test to post-test scores in students’ Sentence Structure scores .....	262
Table 6.7: Difference between SDA and TDA students’ pre-test and post-test scores in Cohesion .....	270
Table 6.8: Difference from pre-test to post-test scores in students’ Cohesion scores .....	270
Table 6.9: Difference between SDA and TDA students’ pre-test and post-test scores in Punctuation .....	275
Table 6.10: Difference from pre-test to post-test scores in students’ Punctuation scores .....	275
Table 6.11: Difference between SDA and TDA students’ pre-test and post-test scores in Vocabulary.....	278
Table 6.12: Difference from pre-test to post-test scores in students’ Vocabulary scores .....	278
Table 6.13: Difference between SDA and TDA students’ pre-test and post-test scores in Spelling.....	286
Table 6.14: Difference from pre-test to post-test in students’ Spelling scores .....	287

## Figures

Figure 1.1 A schematic representation of triadic reciprocity in SDA classrooms (adapted from Bandura, 2012).....	17
Figure 3.1: SDA learning cycle (adapted from Zimmerman, 2008a) .....	82
Figure 4.1: Research questions .....	152
Figure 4.2: Instruments used to address the research questions .....	159
Figure 4.3: Illustration of the study phases .....	163
Figure 8.1: The triadic influences of SDA.....	349

## Glossary

**Affect:** A psychological term for emotion (Carver & Scheier, 2000), beliefs and attitudes (Tarrione, 2011). With respect to self-regulation, affect is part of the intrapersonal factors that influence our behaviour and the actions we take (Carver & Scheier, 2000)

**Agentic engagement:** Students' constructive contribution to the flow of the instruction they receive (Reeve & Tseng, 2011) through transactional activity, in which positive student outcomes are not a function of student activity (agentic engagement) but the result of the reciprocal processes between student and teacher (Reeve, 2013)

**Assessment as Learning:** A process of assessment which is a subset of assessment *for* learning. Assessment as learning is a process aimed at developing and supporting students' ability to reflect critically on their learning (Earl, 2013). In assessment as learning, the student uses their critical thinking skills to interpret new information, relate it to their existing understandings and use it to construct new understandings and skills

**Assessment for Learning (AFL):** A process of assessment which is part of everyday practice by students, teachers and peers that seeks, reflects upon and responds to information from dialogue, demonstration and observation in ways that enhance ongoing learning (Position Paper on Assessment for Learning, 2009)

**Assessment of Learning:** A process of assessment, conducted to provide a point-in-time measurement of students' learning, for reporting purposes. See summative assessment

**Australian Curriculum, Assessment and Reporting Authority (ACARA):** It is the agency responsible for developing the Australian Curriculum, measuring students' progress and reporting on schools' achievements in the National Assessment Program – Literacy and Numeracy (NAPLAN)

**Autonomy:** A term used in self-determination theory (Deci & Ryan, 1985). Autonomy refers to the need to express one's authentic self and to experience that self as the source of action (Skinner & Pitzer, 2012). Autonomy concerns acting from one's interest and integrated values. When autonomous, students' goals and actions are motivated by their own sense of volition and thus an experience of choice (Reeve, 2011; Reeve, Nix, & Hamm, 2003)

**Cognition:** Defined as "the action or faculty of knowing, including perceiving, conceiving" (Shorter Oxford English Dictionary, 2007, p. 446). The term also refers to the ability to reason and problem solve, and to "direct mental function and behavior in accord with internally represented intentions or goals" (Cohen, 2001)

**Formative assessment:** An assessment purpose designed for providing information to guide future learning and teaching

**Index of Community Socio-Educational Advantage (ICSEA):** A scale of socio-educational advantage computed for each school included on the My School website. ACARA calculates an ICSEA value for all schools for which sufficient aggregate-level data is available. A school's ICSEA value scale is calculated on the basis of parental education and occupation and school characteristics such as location and socio-economic background of the students it serves. According to ACARA, ICSEA values typically range from approximately 500 (representing extremely educationally disadvantaged backgrounds) to about 1300 (representing schools with students with very educationally advantaged backgrounds).

**My School:** An official website for ACARA which provides profiles of almost 10,000 Australian schools that can be searched by the school's location, sector or name. The website provides statistical and contextual information, as well as NAPLAN results that can be compared with results from statistically similar schools across Australia

**National Assessment Program – Literacy and Numeracy (NAPLAN):** An annual assessment for students in years 3, 5, 7 and 9, in Australia. It has been an everyday part of the school calendar since 2008. The assessments are undertaken nationwide, every year, in the second full week in May. NAPLAN is made up of tests in the four areas (or 'domains') of: reading, writing, language conventions (spelling, grammar and punctuation) and numeracy. NAPLAN is developed by ACARA

**Performance orientation:** Concern to help students comply with performance goals prescribed by the curriculum through closed questioning and measured by marks and grades (James & Pedder, 2006)

**PISA – Programme for International Student Assessment:** An international survey aimed at evaluating education systems worldwide by testing the knowledge and skills of 15-year-old students in reading, mathematics and science, from randomly selected schools. The survey is conducted every three years by the Organisation for Economic Co-operation and Development (OECD)

**Scaffolding:** Pedagogical support provided to simplify the learner’s role, rather than the task. Scaffolding is a constructivist teaching strategy for creating a learning context in which combined teacher and learner efforts result in a successful outcome (Daniels, 2007)

**Self-Regulated Learning (SRL):** “A multidimensional process by which learners proactively generate, monitor and adapt thoughts, behaviours, and feelings in pursuit of goals. Self-regulated learners are highly productive individuals who, empowered with a strong sense of competency and skills, actively seek to transform their environments, adapt their thinking or ways of approaching a task, and sustain motivation in order to attain their goals” (Bembenutty, Cleary, & Kitsantas, 2013, p. xi).

**Student-Directed Assessment (SDA):** A reciprocal Assessment as Learning process, in which students exercise choice and agentic engagement through the

phases of forethought, performance and self-reflection. As a reciprocal process, the SDA process is influenced by three domains: intrapersonal factors, such as the individual's cognition, knowledge and self-motivational beliefs; situational factors such as teacher support and curriculum outcomes; and learning behaviours, which the student and teacher engage in, in order to achieve the learning goals

**Summative assessment:** A task or activity used to gather evidence of learning in order to document a level of achievement at a point in time (Readman & Allen, 2013)

**Teacher-Directed Assessment (TDA):** A term used in this thesis to describe the approach the control groups used in the writing project. In a TDA approach, the teacher explicitly directs the students to present their ideas and information in accordance with the success criteria, which are determined by the teacher. In the context of this thesis, the teachers in the TDA groups decided what type of text students in their class would write, and scaffolded the students' learning accordingly. The TDA students were provided with teacher-made rubrics of the marking criteria for their writing task but, crucially, the TDA students did not set up their own goals for how they would address the marking criteria.

**Triadic reciprocity:** A theoretical concept of the casual structure of human functioning based on social cognitive theory (Bandura, 1986). As a triadic construct of reciprocal influences, "human functioning is a product of the interplay of

intrapersonal influences, the behavior individuals engage in, and the environmental forces that impinge upon them”. (Bandura, 2012, p. 11)

## **Abbreviations**

**ACARA** – Australian Curriculum, Assessment and Reporting Authority

**AfL** – Assessment for Learning

**ICSEA** – Index of Community Socio-Educational Advantage

**NAPLAN** – National Assessment Program – Literacy and Numeracy

**SDA** – Student-Directed Assessment

**SRL** – Self-Regulated Learning

**TDA** – Teacher-Directed Assessment

## Chapter 1: Contextualising Student-Directed Assessment

### *Chapter organisation*

This introductory chapter provides an overview of the thesis. It outlines the background and significance of the study, and articulates the research questions and the methodology employed to address these questions. The chapter concludes with an overview of the remaining chapters.

### *Introduction*

This thesis is based upon a study into ‘assessment as learning’, which was conducted at an independent school in the Northern Territory, in Australia. The study used mixed methods to examine how Student-Directed Assessment (SDA) shaped primary students’ learning in years 2, 4 and 6, in a cross-sectional (Bryman, 2012) practitioner research design (Punch, 2009). This involved exploring the students’ role in *planning, monitoring* and *reflecting* on the work they conducted, as part of the learning process. Using a cross-sectional design, the study sought enhanced and nuanced understandings (Bryman, 2006, 2012; Onwuegbuzie & Leech, 2004) by taking the perceptions and reflections of students and teachers as well as numeric evidence in the form of assessment results into account. Given the current focus on school performance and achievement results in Australia as well as internationally, it is timely to use both narrative and numeric data to seek a complex understanding of the assessment process and results investigated.

This thesis aims to make a contribution to the field of Assessment for Learning (AfL) by integrating it with understandings from Self-Regulated Learning (SRL), and agentic engagement. The study conceptualises the learning process as an interplay between external curriculum goals, and individual considerations and actions taken by students and teachers *before, during* and *after* assessment as learning. The study is framed by social cognitive theory (Bandura, 1986), and examines learning as a reciprocal process among students, teachers and situational factors, with a focus on students as agents.

### **Setting the scene**

Assessment has been called “the bridge between teaching and learning” (Wiliam, 2011, p. 50), which is an apt description of where this thesis sits. In the Australian context, the Australian Curriculum, Assessment and Reporting Authority (ACARA) states three main assessment purposes: to assess *for, as* and *of* learning (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2012b). A substantial body of research into AfL has established it as an important classroom practice which, when used correctly, leads to significant learning gains for students (Black, Harrison, Lee, Marshall, & Wiliam, 2003; Black & Wiliam, 1998a, 1998c; Gipps, 1996; Glasson, 2009; Harlen, 2009; Wiliam, 2011). Assessment *as* learning is a subpart of AfL (Dann, 2014; Earl, 2013), in which the student plays an active role as a critical connector between assessment and learning through critical reflection, by which students make sense of new information, relate it to prior knowledge and construct new learning (Davies & Hill, 2009; Earl, 2013).

Assessment *of* learning is a common occurrence, as exemplified by the National Assessment Program – Literacy and Numeracy (NAPLAN) as well as international assessment programs such as the Programme for International Student Assessment (PISA). Researchers predominantly in the United Kingdom (UK) and the United States (US) have written extensively about assessment of learning, voicing particular criticism against high-stakes assessment (Broadfoot, 1997, 2002; Darling-Hammond, 2007, 2010; Harlen, 2007; Lipman, 2009; Stobart & Eggen, 2012). Similar concerns have also been raised in the Australian context (Hardy & Boyle, 2011; Klenowski & Wyatt-Smith, 2011; Lingard, 2010). As a policy tool, assessment has an inherent political appeal, as it is perceived to provide evidence of governments' commitment to improve educational standards through emphasising accountability of teachers and schools to standards (Hardy & Boyle, 2011; Lingard, 2010, 2011; Rizvi & Lingard, 2010). However, focus on performance indicators and meeting external standards obligations typically constrain schools (Broadfoot, 2007; Weeden, Winter, & Broadfoot, 2002). Research findings suggest that the emphasis on accountability of assessment processes and outcomes has grown since the introduction of the Australian Curriculum (Harrison, 2007). An extensive discussion of the broader context of assessment as a policy tool to raise learning standards follows in Chapter 2.

In addition, research has found that assessment of learning approaches, particularly in the form of high-stakes tests that carry significant consequences for the test-taker (Stobart & Eggen, 2012), result in a narrowed curriculum and a teaching focus centred on students' achievements in tests (Alexander, 2012; Alexander, Armstrong, Flutter, Hargreaves, Harrison, Harlen, Hartley-Brewer,

Kershner, MacBeath, Mayall, Northen, Pugh, Richards & Utting, 2009; Broadfoot, 1997; Darling-Hammond, 2010). This thesis presents an alternative approach, in which external standards and elements from large-scale assessment regimes such as the NAPLAN are used constructively as part of classroom practice. Rather than narrowing the curriculum, this thesis explores how curriculum goals can be used to individualise the assessment as learning process by enabling students' intrapersonal factors such as interest, cognition, motivation and self-efficacy to influence and enrich the learning process from the outset.

#### *Motivation to conduct the study*

At the time of initiating this study, I had worked as a primary school teacher for more than a decade. I firmly believed that students became more engaged in their learning, and showed greater responsibility in actively seeking and demonstrating knowledge, when given the opportunity to exercise choice and direction in their learning. These thoughts aligned with the notion of reinforcing and extending the role of formative assessment by emphasising the role of the student (Earl, 2003). To echo the metaphor of assessment as a bridge, students in this extended role are involved in designing and building the bridge between teaching and learning.

My intention to involve students in such 'bridge-building' sits well with contemporary learning, which requires that students become informed and independent as learners. In Australia, the National Curriculum Board's educational goals state that successful learners are "creative and resourceful and are able to think critically, analyse information and solve problems[;] able to learn

and plan activities independently, collaborate and communicate ideas[; and] are motivated to reach their full potential” (National Curriculum Board, 2008, p. 3).

For students to achieve such aspiring educational goals, I believe it is vital that teachers evolve their teaching and assessment practice by adopting a reciprocal approach, which engages students in the assessment process. Furthermore, this research stems from my belief that even young students in the lower primary years are able to take on an active role in planning and making choices in assessment, provided they are given guidance by their teacher. In other words, this educational approach relies on explicit teacher involvement in ‘setting the scene’ for students to actively develop the skill, will and knowledge to drive learning forward.

A situational factor came to influence the study in a significant way, namely the 2008 introduction of NAPLAN by the federal government in Australia. As a class teacher who had served as a marker on the NAPLAN writing panel in the Northern Territory, I had grown familiar with the detailed marking criteria in the rubric. Moreover, I wanted to use these detailed descriptors constructively, to better inform my teaching. I therefore began using the descriptors to articulate success criteria and provide feedback as part of my teaching practice. To this end, the study started as traditional practitioner research (Burton & Bartlett, 2005), instigated by my wish to critically examine how students can play a central role in goal setting, as well as a desire to use resources from this nationwide assessment scheme constructively and productively in my teaching. In particular, I sought to raise my students’ metacognitive engagement by scaffolding them to reflect on

their learning and relate it to the success criteria for instruction. When the opportunity to enrol in a research degree presented itself, it was therefore natural that this should be my focus of investigation.

However, schools are places of change, and by the time I was due to seek ethics clearance and formalise a proposal, my role at the school had changed. Instead of teaching a grade class, my new role was to coordinate and teach the school's Gifted and Talented Program. This position entailed working closely with class teachers across all year levels of the school, and presented the opportunity to explore goal setting as part of assessment as learning in a range of classes. In respect of practitioner research, this meant that the data collection was not carried out in my own class, but in the classes of colleagues, who had volunteered to participate in the project.

### *Setting*

The study was conducted in ten primary classes (three Year 2 classes; three Year 4 classes and four Year 6 classes) at a co-educational, independent (non-government, non-religious) school, located in suburban Darwin, in the Northern Territory, in Australia. The school was ranked slightly above the Australian average on the Index of Community Socio-Educational Advantage (ICSEA), with an ICSEA score of 1047 compared to the Australian average of 1000. The ICSEA index (ACARA, 2011a) takes into account a number of variables such as the location of the school, the occupation and education level of parents, socio-economic characteristics of the areas where students live, and the proportion of

students from a language background other than English, as well as the proportion of Indigenous students.

At the time of data collection, the school had an enrolment of approximately 700 students from Kindergarten to Year 10. Having worked at the school for a number of years prior to conducting the study, I had a well-developed understanding of the school's culture, and was immersed in the setting, which lent an ethnographic quality to the study (Walford, 2001, cited in Burton & Bartlett, 2005). Observation was used minimally in the study. Instead, data was gathered from interviews and written sources, so my role as a researcher was what Alan Bryman (2012) has called a "minimally participating observer" in respect of being present when the projects were initiated in each class, but not present in each class throughout the entire learning process. This relative distance was helpful, as it meant that both teachers and students would provide a more informative account in their interviews as they were 'putting me in the picture' through their reflection. Yet, as a teacher at the school with a well-developed understanding of the setting, I could easily contextualise these reflections. Not being in the classrooms throughout the learning process also helped me step outside of the situation, which facilitated theorisation (Burton & Bartlett, 2005).

#### *Limitations and significance*

As practitioner research, this study's particular findings cannot be generalised across other settings. However, the aim is to lend insight into the pedagogical benefits of assessment as learning to a wider audience than the particular school where the research was conducted. It is my belief that this thesis benefits a much

wider community of teachers, teacher educators and researchers by exploring AfL from a social cognitive perspective. In addition, I feel confident that this thesis's use of mixed methods, and the consequent mix of qualitative and quantitative findings, is well placed to contribute to the wider policy discourse, which largely is dominated by a focus on measurable outcomes (Hardy & Boyle, 2011; Stobart & Eggen, 2012). To this end, I posit that this thesis presents a more complete and inclusive understanding of how SDA shapes learning, by examining the reciprocity among students' intrapersonal factors; the scaffolded learning process; and the wider situational influences in the form of external curriculum standards. In addition, this thesis bonds elements from a large-scale assessment regime—NAPLAN—to inform individualised, students-centred classroom practice. To further contextualise where this thesis sits with respect to previous theories on assessment, as a bridge between teaching and learning (William, 2011), an overview of the links between assessment theory and pedagogical practices follows next.

### **Generations of assessment practice**

In an analysis of congruence between assessment practice and beliefs, Mary James (2008) argued for developing more valid assessment through better alignment among assessment, teaching and learning. Using the term 'generations' to signify how different assessment practices have come to maturity at different points in history, James (2008) outlined the characteristics of three generations of assessment practices in an attempt to explore whether blended approaches are possible.

The first generation of assessment practices is characterised by a focus on what is taught in respect of gauging how well knowledge has been transmitted by the teacher and absorbed by the learners (James, 2008). Such approaches draw on behaviourist theories in which learning is a conditioned response to external stimuli. Consequently, this approach focuses on rote learning, as the theory holds that repetitions of the stimuli develop habitual responses, which, through skill and drill, become automatic. Complex skills are reduced into components, which are taught separately before reassembling the separate responses in the overall task. Assessment in this first generation is seen as separate to learning, so assessments take place under test conditions at the end of a sequence of learning, such as a course.

The second generation of assessment practice is based on cognitive constructivist theory, in which the individual learner's sense-making is assessed (James, 2008). This view shares the behaviourists' focus on the individual's acquisition of knowledge and skill, but assessment in this view is aimed at gauging the depth of an individual's understanding. Therefore, the learner has a more active role, as they need to interpret new information and apply their own understanding: for example, by demonstrating their problem-solving skills. Performance in second-generation assessments tends to require the student to demonstrate cognitive skills by applying conceptual frameworks to find solutions to problems (James, 2008). Second-generation assessments are frequently time-limited, as speed of completion is assumed to correlate with the level of a student's acquisition of concepts. As students' understanding of a concept is being tested, assessments may include prompts in the form of particular materials, which the assessment

task requires the student to interpret. A pertinent example of this type of assessment in the Australian context is the NAPLAN, which, as described in Chapter 2 of this thesis, has all these features.

The third generation of assessment practice made the shift away from viewing learning as an acquisition of knowledge and understanding to seeing it as participation of social practices (James, 2008). This generation of assessment is underpinned by sociocultural theory, in which learning is thought to involve both thought and action in a situated context. Such ideas date back to Dewey, who viewed education as a process in which students' 'natural powers' of interest and aptitude become transformed into logical thinking through the experience of solving authentic tasks (Dewey, 1910/1997, 1915/2010). As such, Dewey argued that students develop their understanding by interacting with the environment which provides opportunities for both individual development of understanding as well as collaboration (Dewey, 1916/2005).

Similarly, Lev Vygotsky developed a comprehensive, interdisciplinary educational psychology approach by integrating sensory and reflex processes of 'natural science' with the societal context in which the behaviour developed. This pedagogical movement, called *pedology*, strived to explore theories of child development for the purposes of improving pedagogical practice (Sirotkina & Smith, 2012). Vygotsky (1978, 2012) stressed the importance of language and thinking, and emphasised the importance of culture, using Marxist thought about society as a platform for applying his theory (Cole & Scribner, 1978; Gredler & Shields, 2008).

According to sociocultural theory, situations influence thinking, and thinking conducted through action alters the situation—the two constantly interact. Assessment in this view is an interaction among the student, teacher and the assessment task within its social, historical and cultural context (Elwood, 2006; Klenowski & Wyatt-Smith, 2014). Cultural tools such as artefacts and books are of great importance in sociocultural theory, as they mediate learning by providing symbols for thought and language (James, 2008).

Symbols for thought and language are also recognised in social cognitive theory (Bandura, 1986), but here, symbols are used by the individual learner as a tool to transform observations from modelled activities into meaningful information for the learner. Conversely, sociocultural theory stresses a more collective perspective by focusing on how language underpins people's ability to collaborate and learn from each other. For example, James (2008) defines learning as a social and collaborative activity, emphasising its collective importance by arguing: "Learning involves participation and what is learned is not the property of an individual but distributed within the social group" (p. 30). The collective knowledge of the learning community is then internalised by the individual learner, who in turn contributes to the group with their knowledge (Edwards, 2005). Learning is thus seen as a cyclic movement in which knowledge is created and distributed.

Social cognitive theory shares this view by arguing that people are both producers and products of social systems (Bandura, 1997). However, social cognitive theory centres on analysing how people have influence over what they do by exercising

personal agency to motivate themselves, set goals and evaluate their progress (Bandura, 2001). Thus, from a social cognitive position, learning refers to the learner's agency and ability to self-regulate their learning within a social context (Cleary & Zimmerman, 2004). Sociocultural theory, on the other hand, explores learning with particular emphasis on the social, historical and cultural environment in which the learner's construction of knowledge is situated, as a member of a community of learners in a school (Klenowski & Wyatt-Smith, 2014).

In respect of assessing students' learning in relation to learning outcomes, sociocultural approaches use various forms of recording, including narrative accounts and artefacts (Dargusch, 2012; Willis, 2011). Socioculturally framed assessment approaches tend to use qualitative methods to judge work, to form a holistic view, rather than quantified approaches to measurement (James, 2008). Overall, sociocultural assessment practices connect with valued teaching and learning practices in schools. This, in turn, is congruent with James's (2008) argument that the most valued outcome of learning in the sociocultural view is "engaged participation in ways that others in the community of practice find beneficial" (p. 30). From a research perspective, sociocultural theory focuses on situated practice and emphasises the importance of the setting. Consequently, sociocultural approaches use mainly qualitative approaches when contributing to learning.

The Swiss researcher Philippe Perrenoud (1998) presented a contrasting position compared to the dominating sociocultural approach in the formative assessment

literature in English. Arguing that French language contributions to formative assessment (although he uses the term ‘formative *evaluation*’) emphasises individualised regulation of learning; for example, Perrenoud stressed the importance of students’ agency by taking the feedback into account and thus allowing it to affect their cognition (Perrenoud, 1998). Linda Allal, whose research also reflects the French-speaking conception of formative assessment, has made a poignant distinction between the teacher-focused approach and what she referred to as the *enlarged conception* of formative assessment. The former refers to an approach in which the teacher assumes the responsibility for planning, managing and interpreting the results of formative assessment. By contrast, an enlarged conception of formative assessment scaffolds the active involvement of students in formative assessment through procedures such as self-assessment, reciprocal peer assessment and joint teacher–student assessment (Allal, 1999; Allal & Lopez, 2005).

The enlarged form of formative assessment aligns with assessment as learning and AfL processes (Swaffield, 2011). The French-speaking emphasis on student agency bears strong similarities to Johnmarshall Reeve’s critique of what he calls a unidirectional flow of instruction by which the teachers set tasks that students respond to. As Reeve put it: “What is missing from such a conceptualization of student engagement [... is] students’ constructive contribution into the flow of instruction they receive, as students try to enrich and personalize that instruction” (Reeve, 2012, p. 161). The idea of students’ agentic engagement and contribution to instruction aligns with Allal’s notion of joint teacher–student assessment as part

of an enlarged concept of formative assessment. The SDA approach is firmly positioned within this niche of formative assessment.

*A new generation of assessment practice*

This thesis draws on the sociocultural emphasis on authentic learning and integrating assessment with learning in an active process, in which the learner is an agent. However, rather than emphasising the importance of the community as a distributor of knowledge which the individual internalises, this thesis adopts a social cognitive underpinning (Bandura, 1986), which is based on three components: the intrapersonal influences of the individual; behaviour; and situational factors such as the community. Rather than confining itself to the use of only qualitative methods of data collection and analysis, this thesis shifts from sociocultural theory and moves into social cognitive theory by also using quantitative measures to seek understanding.

As such, this thesis draws on what James (2008) terms the third generation of assessment practice, and seeks to build on its formative use of assessment by exploring a *fourth generation* of assessment: assessment as learning, by using mixed-methods to analyse the reciprocal connections among the individual learner, social influences and pedagogic practice which is centred on integrated learning and assessment. Indeed James (2008) acknowledged:

... possibilities for synthesis whereby a more complete theory can emerge from [the] blending and bonding of key elements of previous theories. Such synthesis may lead to a new alignment. The possibility for a more

complete and inclusive theory of learning to guide the practice of teaching and assessment seems to be a goal worth pursuing.

(James, 2008, p. 34)

Lorna Earl and Steven Katz, two key contributors to assessment *as* learning theory, have sought to present a more inclusive approach to assessment, which acknowledges classroom assessment practices as being deeply rooted in societal expectations while drawing on insights from the cognitive sciences into the nature of learning (Earl & Katz, 2006). This view adopts a constructivist approach to learning, which means that students draw on their current understanding to interpret, expand and construct new knowledge (Brooks, 1990; Daniels, 2001; Jonassen, 2006; V. Richardson, 1997, 2003; Vygotsky, 1978; Zane, 2009a, 2009b). During the process of constructing understanding by connecting new information to what they already know, ideas become coherent to the learner as they relate to the individual's interest, experience, motivation and learning style (Earl & Katz, 2006). Furthermore, Earl and Katz (2006, 2008) assert that learning is enhanced when students, as active, critical thinkers, are encouraged to reflect on and review their experiences of learning. Assessment provides a feedback loop for students in which they engage metacognitively and develop proficiency in monitoring, regulating and challenging their learning (Earl, 2006, 2013; Earl & Katz, 2006). To quote Earl: "When teachers focus on *assessment as learning*, they use classroom assessment as the vehicle for helping students develop, practice and become critical thinkers who are comfortable with reflection and the critical analysis of their own learning" (Earl, 2006, p. 7, emphasis in original).

In the SDA context, a key element of understanding is the step in which the students are prompted by the teacher to discuss and reflect on what the curriculum's outcome statements for literacy entail. Students use their understanding to establish a checklist of specific skills and language features they will address in their assessment, to meet the curriculum outcomes. Once the learning goals are identified, the students identify strategies to facilitate their progress. By emphasising the process of goal-setting, implementation of learning strategies, and self-evaluation, the SDA approach draws heavily on SRL theory, in which these elements are essential to enhance learning (Beishuizen & Steffens, 2011; Paris & Newman, 1990; Pintrich, 2004; Schunk & Zimmerman, 2003; Zimmerman, 1990; Zimmerman & Bandura, 1994).

### *Social cognitive theory*

With its focus on learner agency, this thesis is framed by social cognitive theory (Bandura, 1986). Social cognitive theory is founded on an agentic perspective, which holds that people intentionally exert influence over their functioning and the course of events that result from their actions (Bandura, 2006, 2012). A central understanding is the notion that human functioning is a product of the interplay among intrapersonal influences; the behaviour individuals engage in; and the situational forces that have a bearing on them (Bandura, 2012). These three influences impact on each other in a dynamic interplay, which is referred to as *triadic reciprocity* (Bandura, 1986), a term frequently used in this thesis.

In particular, this thesis focuses on intrapersonal influences in the form of cognition and affect; behaviour in the form of action taken to facilitate learning;

and social influences in the form of values and task demands in the classroom environment, guiding the review in each of the literature threads. Thus, the theoretical framework takes an inclusive perspective on student learning, which combines cognitive factors, motivational and affective factors, and situational and social contextual factors (Pintrich, 2000, 2004). Of these factors, situational factors such as curriculum demands are the focus of the next chapter.

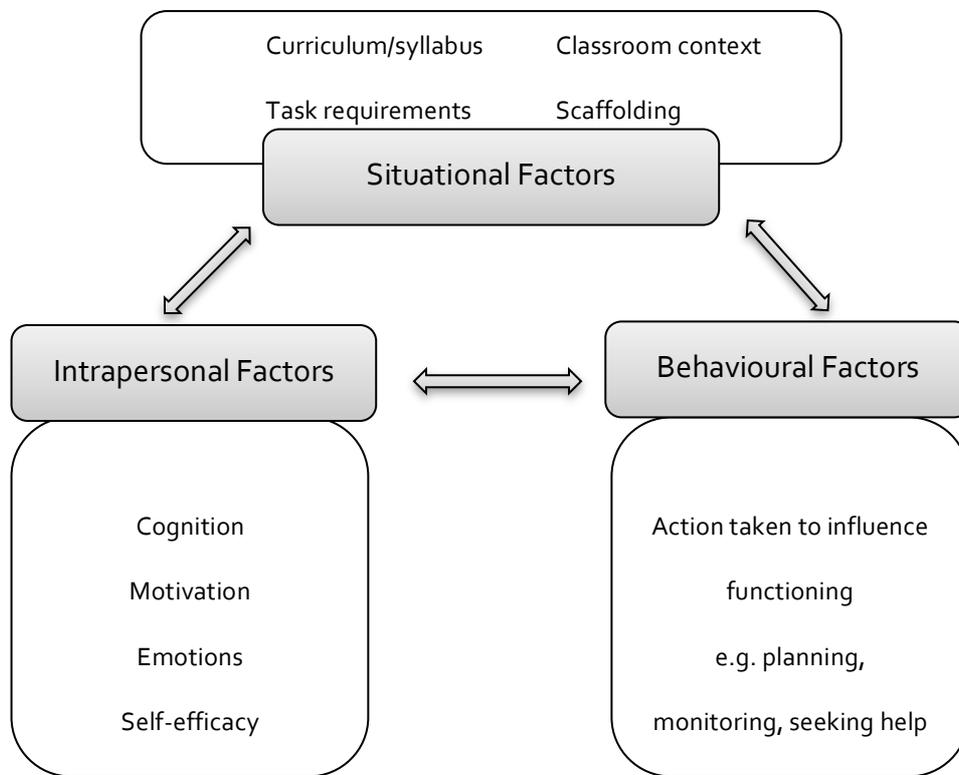


Figure 1.1 A schematic representation of triadic reciprocity in SDA classrooms (adapted from Bandura, 2012)

This thesis uses the framework of social cognitive theory in order to underpin, contextualise and organise understandings from relevant fields of research. One of

the key fields of theory and research, which this thesis draws on, is SRL, a concept that is outlined next.

### *Self-Regulated Learning*

SRL refers to the processes people engage with to personally activate and sustain thoughts, feelings and behaviours that are systematically oriented towards the attainment of personal goals (Zimmerman & Schunk, 2011). Thus, the term implies that students are proactive in directing their behaviour or strategies to achieve self-set goals (Cleary & Zimmerman, 2004; Pintrich, 2004). Students' ability to self-regulate their learning is from the social cognitive view determined by personal, behavioural and social factors (Bandura, 1986; Zimmerman, 2000). These three dimensions influence the learner as they take charge of their learning by generating, monitoring and adapting their thoughts, behaviours and feelings in pursuit of personal goals (Bembenutty, et al., 2013; Cleary & Zimmerman, 2004; Zimmerman, 2000). Learners develop their knowledge, skills, strategies, beliefs, rules and attitudes by interacting with others in their social environment (Schunk & Usher, 2013), which in the SDA context means classroom, and which in turn is influenced by situational factors such as curriculum goals and educational policy which influence classroom practice.

The majority of SRL studies have involved adolescents and college students (e.g. Glogger, Schwonke, Holzäpfel, Nückles, & Renkl, 2012; Pintrich & De Groot, 1990; Zimmerman, 1998; Zimmerman & Bandura, 1994; Zimmerman & Martinez-Pons, 1990). However, the few SRL studies that have been conducted in primary school settings have found that SRL leads to better understanding of

mathematical concepts (Fernandes & Fontana, 1996; Morrison, 2007; Stoeger & Ziegler, 2008). Primary students who engage in SRL have been found to also demonstrate a greater willingness to engage in writing for extended periods and become further motivated in their learning when developing writing portfolios (Perry, 1998). In addition, research suggests that primary students have greater confidence than high school students in their own ability to apply SRL strategies (Pajares & Valiante, 2002), and that younger students set more ambitious and challenging learning goals (Wigfield, Eccles, et al., 1997; Wigfield, Klauda, & Cambria, 2011). A more detailed review of SRL literature follows in Chapter 3.

Thus, previous research suggests that the ability to self-regulate their learning holds clear benefits for primary students. However, research also suggests that primary students may overestimate their SRL ability and set goals that are too ambitious (Wigfield, et al., 1997), which is why careful scaffolding is important. In addition, primary students have been found to focus on performance goals and comparing their achievements with peers before being scaffolded to develop a deeper, mastery approach in respect of setting goals and self-regulating learning (Hastie, 2013). This, in turn, reiterates the importance of the reciprocal approach this thesis adopts.

### *Self-assessment*

Self-assessment is a process which involves students in reviewing and reflecting upon their past learning experiences, attempting to gain a clear idea of what has been learned, to determine new learning targets (Claxton, 1995; Towler & Broadfoot, 1992). It is often described as a first step in developing AfL (Hayward,

2012). The concept of student self-assessment is closely linked to formative assessment and constructivist learning theory in its focus on identifying learners' understanding in order to expand it. Both approaches are underpinned by the belief that every student can improve, and learning goals, standards and expectations need to be shared with students (Pedder & James, 2012; Readman & Allen, 2013; Towler & Broadfoot, 1992).

Effective feedback of assessment results aid students in recognising the next learning steps, as it allows students to formulate ways of understanding (Weeden, et al., 2002). Such a student-centred, integrated approach to learning is one of the essential underpinnings of SDA, which puts the research in the area of self-assessment. So, why use the term 'Student-Directed Assessment' rather than 'self-assessment'?

This thesis avoids the term 'self-assessment', which otherwise is commonly associated with assessment as learning—for example, demonstrated in documents from the Victorian Department of Education and Early Childhood Development, (2013) and the New South Wales Board of Studies, (2012)—because self-assessment is associated with students judging the quality of their own work (Brown & Harris, 2013, 2014; Howell, 2014), which implies a reactive, rather than proactive approach.

Also, self-assessment is largely concerned with how students confirm, consolidate and integrate new knowledge as part of the learning process (Davies & Hill, 2009), which implies a focus on students monitoring their understanding during the

performance phase of learning. While such monitoring of understanding during learning also is important to SDA, emphasis is placed on students identifying goals as part of the SRL concepts of *task analysis* and *strategic planning*, in order to scaffold students' active involvement in clarifying the success criteria for the assessment.

### *Agentic engagement*

A central idea that informs this thesis is the idea of students actively contributing to the assessment as learning process in a transactional (Sameroff, 2009, cited in Reeve, 2013) or dialectical (Reeve, Deci, & Ryan, 2004) manner. This emerging field of research into agentic engagement has explored students' contribution to the flow of instruction as a reciprocal process with the teacher, which leads to advancement in learning (Reeve, 2013; Reeve & Lee, 2014; Reeve & Tseng, 2011). Reeve (2013) has made comparisons between agentic engagement and other proactive, collaborative and constructive classroom activities such as formative assessment, and argues that meaningful differences exist. Reeve (2013) posited that formative assessments are “collaborative, constructive and sometimes proactive approaches to instruction that facilitate learning, but they represent teacher-initiated, rather than student-initiated action” (Reeve, 2013, p. 581). This powerful statement articulates precisely the gap that SDA seeks to address and overcome.

### *Clarifying the term 'Student-Directed Assessment'*

Students' choices and active role in the cognitive process of acquiring skill and knowledge are central in this thesis, and these are also central concepts in self-

directed learning. However, the term ‘self-directed learning’ is associated with adult education (Merriam, 2001; Pilling-Cormick, 1997; Pilling-Cormick & Garrison, 2007; Sellars, 2014). It is also a term which implies that students have the main responsibility for taking control of the learning process with respect to setting goals, finding resources and monitoring the effectiveness of learning strategies (Pilling-Cormick & Garrison, 2007). While this thesis certainly views the student as central in the learning process, it explores the interplay between the individual student and the scaffolded support from the teacher in the assessment as learning process. To distinguish these differences, the term ‘Student-Directed Assessment’ is used.

### **The Student-Directed Assessment alternative**

This thesis seeks to expand on current knowledge by exploring student direction and self-regulation through a writing project within a primary school setting. SDA is centred on engaging students to exercise choice and take charge of their own learning through the reciprocal process of planning and managing a learning task, together with their teacher.

SDA entails that students establish a clear understanding of what they are expected to work towards (as dictated by the learning outcomes in the curriculum). Once the student clearly understands what the goal is, the student sets about planning how to get there. The planning involves identifying steps, strategies and partial goals to help the students achieve the overall success criteria, which is the learning outcome as stated in the syllabus.

The importance of success criteria has been noted in seminal reviews of effective teaching practices. For example, John Hattie's (2009) synthesis of more than 800 meta-analyses relating to achievement noted it as one of seven teaching factors that are strongly associated with student learning (Hattie, 2009). To maximise learning, success criteria is of particular importance to "get the students engaged in and enjoying the challenge of learning. It is challenge that keeps us investigating in pursuing goals and committed to achieving goals" (Hattie, 2012, p. 57). Similarly, research into SRL emphasises the importance of the learner setting partial goals to persevere with challenges, which in turn optimises learning (Bandura, 1997; Schunk, 1995; Schunk & Pajares, 2005; Zimmerman, 1986; Zimmerman & Kitsantas, 2005; Zimmerman & Schunk, 2011). To this end, self-regulation is conceptualised by the research authorities in the field of SRL as a systemic process of human behaviour that involves setting personal goals and steering behaviour towards achieving these goals (Zeidner, Boerkaerts, & Pintrich, 2000). This systematic process of conscious steering towards a goal begins with forethought, which is why this concept is so significant in the SDA approach.

#### *Research focus*

Five reasons underpin the decision to adopt a mixed-methods approach for the study. First, the aim is to confirm and discover (Bryman, 2006) if my practice-based belief that students learn better when they play an active role in determining their assessment is confirmed in a learning experiment.

The second aim is to find *mutual corroboration* (Bryman, 2006) between the participants' accounts and the writing experiment to see how SDA shapes learning.

Third, the study seeks *enhanced* data (Bryman, 2006; Onwuegbuzie & Leech, 2004) that takes into account the perceptions and reflections of students and teachers as well as numeric evidence in the form of assessment results. In the current climate of focusing on school performance and achievement results, it seems particularly important to use both narrative and numeric data to seek a complex understanding of the assessment process and results investigated in the study.

Fourth, the mixed methods serve a *utility* purpose (Bryman, 2006) in which the findings are set to contribute to an enlarged conception of formative assessment practices, for the benefit of students' learning and teachers' professional practice.

Fifth, different qualitative and quantitative research methods have their own strengths and weaknesses, so by combining them the study aims to *offset* (Bryman, 2006) the weaknesses and draw on the strengths from both perspectives.

#### *Mixed-methods study questions*

Four research questions are explored in the study, with the key research question for this study asking: 'How does Student-Directed Assessment shape learning?'

The second, qualitative sub-question explores: 'How do students engage in learning, when required to identify and engage in task analysis and strategic planning by identifying sub-goals for their progress towards mastering a specific learning outcome?'

The third sub-question focuses on students' choices of demonstrating their learning. This question includes both descriptive and quantitative aspects in regard to the types of text students chose as a format for demonstrating their writing skills. Interpretive approaches to explore the subjective reasons given by students are also examined here.

The fourth research question investigates the advantages and disadvantages of SDA from the subjective points of view expressed by teachers and students. In addition, an objective view in regard to results in the writing project is examined, using null and alternative hypotheses to ascertain whether or not SDA students demonstrated greater skill and competence as writers, compared to students in the Teacher-Directed Assessment (TDA) groups.

### **Thesis outline by chapter**

This chapter has situated the study as a practitioner-based study into AfL, with a particular focus on developing students' agency as self-regulating learners. This chapter has provided an overview of the relationship between assessment practice and underpinning beliefs with respect to different generations of assessment, and positioned the study as an emerging conceptualisation of a social cognitive, student-centred approach to assessment as learning. The chapter has also explained the reasons for adopting mixed methods, and articulated the research questions.

Chapter 2 is a contextual chapter with respect to assessment policy and curriculum development in Australia. This chapter provides a macro perspective of the social

influences in respect of SDA, which connects with the idea of triadic reciprocity. The chapter also provides international insights from assessment policy in Hong Kong, South Korea and Finland. All of these countries have strong influences of SRL but in addition, educational policy in Hong Kong has placed emphasis on self-directed learning and creativity, which are central concepts in this thesis. Similarly, educational policy in South Korea emphasises SRL and self-directed learning. In addition, studies into agentic engagement, which is a central tenet of this thesis, have predominantly been conducted in South Korea. Finland is informative because of its focus on intelligent teacher accountability, which provides a contrast to the accountability focus in Australia. The analysis indicates that curriculum approaches to assessment which enable reciprocity among the situational context; the individual learners and teacher; and actions taken to facilitate learning are associated with successful academic achievement.

The review of literature to inform the study is presented in Chapter 3. A triadic framework (Bandura, 1986) is employed to explore SDA in relation to the individual learner; situational factors in the classroom context; and student-directed actions to facilitate learning. Conceptual theory and research findings from the fields of motivation, efficacy, competence and creativity inform the thesis's focus on intrapersonal factors. These notions are significant for this study, as these key themes emerged from the data analysis. The review of literature to examine situational factors focuses on the interactions between teachers and students in the SDA process. The third component of triadic reciprocity, behaviour, examines SRL literature to inform student-directed actions and practices. The review of the literature highlights points of agreement and

contestation, and synthesises the understandings from research into SRL, with assessment as learning research to create a warrant for this study.

Chapter 4 presents the methodological considerations for the research. First, the chapter situates the study within its theoretical framework and design. The chapter then outlines the ethical considerations before turning to describe the methods and procedures for data collection and analysis. The qualitative sources include interviews with teachers and students, students' planning records and students' writing samples.

Three thematic chapters follow next, each describing and discussing the key mixed methods findings. Chapter 5 is the first, and it describes and examines the qualitative and quantitative data findings relating to creativity. It synthesises these findings to provide a complex understanding of how SDA fosters students' creative thinking. The findings discussed in this chapter relate to how students choose to demonstrate their learning; that is, the types of text students choose to write. The chapter also explores the subjective reasons underlying students' choices. The analysis is structured around the creative aspects of the NAPLAN marking criteria and explores students' writing with respect to an intended audience and development of ideas, as well as character and setting in their writing. The analysis synthesises these aspects of writing with key messages from the literature relating to creativity from Chapter 3, using a framework of triadic reciprocity (Bandura, 1986).

Chapter 6 explores the technical aspects of the students' writing through constructs of competence and academic functioning with respect to SRL. The

chapter examines how students in SDA groups used learning strategies and developed competence as learners, and what students and teachers perceived as benefits and challenges with SDA. It also examines whether results in the writing project varied between SDA and TDA students. The chapter's discussion is structured around the seven technical aspects of writing: *Text Structure*, *Paragraphing*, *Sentence Structure*, *Cohesion*, *Punctuation*, *Vocabulary* and *Spelling* (MCEETYA, 2008b).

Chapter 7, the last of the three thematic discussion chapters relating to the findings, explores the use of assessment to motivate and engage students in learning. It explores the central question of how SDA shapes learning, with particular links to the second research question's focus on how students engage in learning when required to identify their own learning goals, and determine sub-goals for their progress towards their mastery of the learning outcomes. As in the previous two chapters, the study's qualitative and quantitative findings are synthesised into a thematic discussion, which is linked to common understandings from research into SRL in combination with formative assessment practices that promote student agency. The chapter begins by outlining the multidimensional concept of engagement. The discussion then turns to examining how the SDA students engaged in their learning by exercising control in their learning through self-efficacy (Bandura, 1997), which reconnects with the previous chapter on how the SDA helped foster students' development as competent learners by exploring the students' motivational determinants. In particular, the chapter explores how self-efficacy affects academic performance (Bjørnebekk, Diseth, & Ulriksen, 2013; M. Richardson, Abraham, & Bond, 2012; Usher & Pajares, 2009).

Chapter 8 is organised into three sections. The first section draws from the mixed-methods findings to provide four key insights into how SDA affects primary students' learning in years 2, 4 and 6 at an independent school in the Northern Territory, in Australia. The second section revisits the social cognitive framing of the study. The third section presents implications of the research for teaching and learning, and provides a set of three main recommendations.



## **Chapter 2: Assessment as a policy tool**

### *Chapter organisation*

This chapter describes how assessment has come to play a central role in classroom practice but also increasingly has become the focus of education policy and systemic development. In fact, this study is a direct result of the systemic policy development of assessment, as the study originated in reaction to the 2008 introduction of the National Assessment Program – Literacy and Numeracy (NAPLAN) in Australia. To put the Student-Directed Assessment (SDA) approach in context, this chapter examines how assessment has become a tool for monitoring standards and school performance. Consequently, this chapter outlines some of the educational policies and practices which Australia has adopted. A contrasting approach is also examined, exemplified by assessment policy and practice from Hong Kong, South Korea and Finland.

This thesis adopts social cognitive theory to build an understanding of how students' learning is affected when a SDA approach is used to scaffold assessment as a learning process. A key idea in social cognitive theory is the notion of interaction among situational, intrapersonal and behavioural factors, which together frame human development (Bandura, 1986). This idea of triadic reciprocity is examined throughout this thesis, with the present chapter focusing on how policy directives, here mainly explored as an external environmental factor, sets the agenda for the pedagogical practice in classrooms. This chapter explores how teachers' professional judgement with respect to curriculum delivery and assessment is affected by policy as an external situational factor. Teachers' professional decisions

in respect of pedagogy are viewed in this thesis as part of teachers' behaviour, as they use their pedagogical knowledge and skills to address the curriculum demands. Teachers' knowledge, understandings, confidence and motivation are intrapersonal factors that reciprocate with their pedagogical behaviours. In turn, teachers' behaviour and intrapersonal factors are influences framed by the situational context of curriculum and policy.

### **Framing the situation: assessment for accountability**

A discourse of school improvement plans dominates the present education debate in Australia by which progress is measured in standardised assessment results and published in forums such as the My School website (ACARA, 2011c; Commonwealth of Australia, 2012). Consequently, schools' results in summative assessment programs such as the NAPLAN are of increasing importance. Schools are encouraged to provide quality education for their students by adopting quantitatively driven approaches to gathering evidence of progress. An example of such an initiative is the *National Plan for School Improvement* (Department of Education, Employment and Workplace Relations [DEEWR], 2012), which prompts all schools in Australia to "adopt a new national focus on lifting the results of every student" (DEEWR, 2012). Its manifested aim is "to see Australia ranked as a top five country in the world for educational performance in reading, science and mathematics by 2025". Praiseworthy as these goals may appear, simply adopting a national assessment-driven focus is not enough. Standardised assessment has become the tool of choice as an indicator of a school's effectiveness. Large-scale assessment results present as simple, expedient measurements of school performance. Their use of numerical data gives a sense of indisputable proof and

they are presented as valid, reliable indicators of quality. A driving force is the deceptive and false assumption that assessment constitutes a neutral instrument, which is capable of measuring students' achievement objectively and adequately (Jones, 2004; Klenowski & Wyatt-Smith, 2011). Schools with high scores in standardised tests are perceived as effective and thus providing educational quality.

However, standardised assessment scores reflect only “rough approximations of a student's status with respect to the content domain represented by the test” (Popham, 1999, p. 10). Therefore, tests need to be scrutinised. Students' high achievements in tests that require sophisticated thinking skills and synthesised application of knowledge provide more valid indicators of quality learning. Poignantly, valid indicators of learning require a connection to the intrapersonal domain of a student, as their ability, their knowledge and their understanding of a concept require cognitive and metacognitive skills.

#### *Benchmarks and the Australian accountability agenda*

Australia's increased use of high-stakes testing for accountability has crossed political party boundaries. In 1997, the Liberal Howard government, in agreement with all state, territory and Commonwealth education ministers, initiated the National Literacy and Numeracy Plan, which developed benchmarks for years 3, 5 and 7 (Klenowski, 2011; Ministerial Council on Education, Employment, Training and Youth Affairs [MCEETYA], 2006). State and territory-wide literacy benchmark testing for years 3 and 5 commenced in 1999, with numeracy being added the following year (MCEETYA, 2006). The results of the tests were given to the individual schools and published in the *National Report on Schooling in Australia*. By 2005, benchmark reporting had increased to include reading, writing

and numeracy data for years 3, 5 and 7. Achievement levels across the states and territories were monitored, with the aim to identify students who did not meet the minimum standards and thus would have “difficulty progressing satisfactorily at school” (MCEETYA, 2006, p. 2). Initiatives to help students who failed to meet the benchmarks followed.

Under the new catchcry that “[t]he Australian economy needs an education revolution” (Austalian Labor Party [ALP], 2007), the use of assessment for accountability was furthered by the implementation of the NAPLAN. NAPLAN and its public forum for publishing each school’s results, the My School website, will be discussed later in this chapter.

However, before doing so, it is timely to clarify this thesis’s standpoint on this, in relation to using assessment as a tool for improving students’ learning. Educational researchers from United Kingdom (Alexander, et al., 2009; Broadfoot, 1997; Broadfoot & Black, 2004) and the Unites States (Berliner, 2011; Darling-Hammond, 2010; Lipman, 2009; Nichols & Berliner, 2007) have over the last twenty years lamented how high-stakes testing programs detract from teachers’ ability to use class time productively by focusing on rich, meaningful and informative teaching of their students. Paul Black and Dylan Wiliam illustrate this when arguing that: “The collection of marks to fill in records is given higher priority than the analysis of pupils’ work to discern learning needs” (Black & Wiliam, 1998b, p. 142).

In Australia, similar concerns have been raised that teachers struggle to meet the demands of both an increasingly constrained curriculum and associated time-consuming assessment routines, and students’ meaningful development of skills and

understanding of subject content (Klenowski, 2011; Klenowski & Wyatt-Smith, 2011; Lingard, 2011). This thesis joins Earl (2003, 2013) in her aim to “reconfigure the balance” between assessment and learning by exploring assessment *as* learning, with an explicit focus on learning outcomes which relate to benchmarks. Thus, this thesis is squarely aimed at using benchmarks for goal-setting purposes rather than monitoring purposes.

*A central focus: a national curriculum*

The idea of a national curriculum was first raised by the Australian Labor Party (ALP) Education Minister, John Dawkins, in the late 1980s (Reid, 2009). Despite the existence of national education bodies such as The Curriculum Development Centre and The Curriculum Corporation, the idea was dismissed and the states continued to have autonomous power of their curricula (Reid, 2009). Others argue that a de facto national curriculum has existed since the early 1990s, when the Curriculum Corporation was established. For example, Marie Brennan (2011) explained that despite “considerable variation in extent of content description, cross-curricular and essential organising principles, there was a common format in many learning areas and all authorities provided implementation support documents for programming and assessment” (Brennan, 2011, p. 262), with reference to the Curriculum Corporation’s 2003 report.

Another decisive step towards a national curriculum was made in 2003, when the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) began developing ‘statements of learning’ in key learning areas such as English, Mathematics, Science and Civics. These goals were developed by the

Curriculum Corporation on behalf of MCEETYA and formally published in 2005 (Curriculum Corporation, 2005a; Curriculum Corporation, 2005b).

The strive for national consistency in education, which began in 1986 as an interest of the Australian Education Council and continued through the work of both ALP and Coalition federal education ministers Dawkins, Beazley and Nelson culminated in 2008 (Brennan, 2011). As part of ‘the education revolution’, the newly elected ALP prime minister Kevin Rudd announced a National Curriculum Board, which in its ‘proposal for discussion’ stated a small advisory group had begun to work on the shape of the national curriculum in English, Mathematics, the Sciences and History (National Curriculum Board, 2008). Shortly afterwards, the MCEETYA published its *Melbourne Declaration on Educational Goals for Young Australians*. The Melbourne Declaration identified two overarching goals—to promote equity and excellence in Australian schooling; and that all young Australians become successful learners, confident and creative individuals, as well as active and informed citizens (MCEETYA, 2008a).

These goals, noble as they sound, came to have a profound effect on Australian schooling. The first goal constitutes the basis for the much debated My School website (described in detail later in this chapter), which publishes every Australian schools’ NAPLAN results. The second goal, with its clear links to the national curriculum, is also worth reflecting on. The *Melbourne Declaration on Educational Goals for Young Australians* explicitly states that English, Mathematics, the Sciences and Humanities will be “incorporated into the curriculum with breadth, balance and depth of learning appropriate to students’ phases of development” (MCEETYA, 2008a, p. 14).

However, it is worth noting that the *Melbourne Declaration on Educational Goals for Young Australians* announces that the “learning areas are not of equal importance at all year levels. English and mathematics are of fundamental importance” (MCEETYA, 2008a, p.14). This is a pronounced focus on two learning areas, which in turn indicates a narrowing of the curriculum. Further signs of the coming curriculum’s emphasis of discrete and discipline-based teaching, rather than an interdisciplinary approach, was indicated by the declaration’s distinguishing of disciplines such as “physics, chemistry and biology” within Science, and “history, geography, economics, business, civics and citizenship” within Humanities and Social Sciences (MCEETYA, 2008a, p.14). This descriptive rigour in articulated disciplines prompted Brennan (2011) to make the following poignant observation:

[T]he Australian curriculum is not curriculum at all. Rather, it is a syllabus document, specifying content and sequence of content by year level of schooling. Curriculum, on the other hand, is a much wider enterprise, around which definitions can be hotly debated and around which the decision-making locus can vary considerably.

(Brennan, 2011, p. 264)

As Brennan (2011) points out, a problem with subject-based curriculum design is that it is not conducive to exploring complexity and adding new kinds of knowledge. Instead, she and notable educational researchers such as Bob Lingard (2010) are proponents for productive pedagogies and rich tasks rather than the “regulatory, accountability-driven, measurement-focused testing policy regime [which] is a return to the Tylerian (Tyler 1949) model of objectives-based curriculum design” (Brennan, 2011, p. 275).

Brennan and Lingard raise an important point when stressing that learning becomes deeper and more meaningful for students when framed as complex exploration, which integrates disciplines and rich tasks. However, this thesis questions whether setting explicit discipline goals within the curriculum necessarily cancels out an integrated approach. A more poignant consideration is whether or not the curriculum frameworks allow flexibility for teachers to exercise their professional judgement in how to best promote learning. In other words, flexibility to draw on their—and their students’—interests, beliefs, values and understandings to develop meaningful and engaging learning which relates to the goals stipulated by the curriculum. Indeed, Brennan’s statement above also draws attention to this question, by stressing the regulatory regime. Further links to this measurement-driven approach is discussed below in the sections on the National Assessment Program and the My School website.

Testament to the blurring of lines between curriculum development and reporting is the fact ACARA was founded in 2009 as the agency responsible for developing the curriculum, measuring students’ progress and reporting on schools’ achievements in the National Assessment Program (ACARA, 2011b, 2012b). ACARA’s development of the national Australian Curriculum was guided by the goals stated in the 2008 *Melbourne Declaration on Educational Goals for Young Australians* and has been conducted in three phases (ACARA, 2012b). While ACARA does not officially state it, perhaps these phases are indicative of the different strands’ perceived importance? In the first phase, the curriculum development involved four subjects: English, Mathematics, Science and History. The second phase involved developing curriculum documents for Geography, Languages, and the Arts. A wide

range of subjects were the focus of the third phase, which involved developing curriculum documents for Health and Physical Education; Information and Communication Technology; Design and Technology; Economics and Business; and Civics and Citizenship (ACARA, 2012b).

Certainly, the curriculum is up-front about prioritising literacy and numeracy in the early years and “increasing emphasis on all eight learning areas in the upper primary years and in years 7 to 8” (ACARA, 2012b, p. 15). With respect to putting the curriculum into practice, ACARA states:

For each learning area, the Australian Curriculum emphasises the knowledge, understanding and skills that form the entitlement of a learning area. Teachers are able to choose how best to introduce concepts and processes, and how to progressively deepen understanding to maximise the engagement and learning of every student.

(ACARA, 2012b, p. 19)

Given that this thesis explores assessment as a learning process, aimed at deepening students’ understanding and engagement with their learning, the citation above does provide some hope that innovative teaching approaches such as SDA may continue as the new curriculum is rolled out. Certainly, the present study should help make a case for the continued use of productive pedagogies and student-centred practice. In particular, this thesis strives to use the explicit curriculum goals as overall success criteria which are described in detail. Rather than perceiving such precise goals as constraining to teaching practice and productive pedagogy, an alternative view is that precise goals provide clarity of purpose, and opportunities for a meaningful and enriching learning process as the student works towards these goals. This view is a

central argument in this thesis and it applies to national curriculum goals as well as the outcomes tested in the NAPLAN, which is examined next in this chapter.

### **The National Assessment Program – Literacy and Numeracy**

The 2008 introduction of the NAPLAN meant that for the first time all students in years 3, 5, 7 and 9 across Australia all sat the same assessments at the same time, one week in May. The different state and territory benchmark tests that previously were used to provide a snapshot of students' learning were thus replaced by one single test. The Education Minister in the Labor government at the time of NAPLAN's introduction, Julia Gillard, stated that the introduction of the national assessment would "provide the first truly accurate picture of how our kids are progressing. [...] These national results, combined with the development of a national curriculum, provide an opportunity for collaborative reform which genuinely raises standards" (Gillard, 2008, paragraphs 9; 11).

So, what does the NAPLAN involve? The annual assessment program concerns students in years 3, 5, 7 and 9 who sit four tests: Reading, Writing, Language Conventions and Numeracy. The Reading test measures students' ability to meet the *Statements of Learning for English* (Curriculum Corporation, 2005a). The test focuses on the reading of written English in the form of a magazine with a range of texts that illustrate different writing styles and complexity (ACARA, 2011f). The Language Conventions test assesses spelling, grammar and punctuation and is, like the Reading test, linked to the *Statements of Learning for English* (ACARA, 2011d).

Both the Reading and Language Conventions tests have different sets of booklets, aimed at the different year levels, although both are assessed according to the

criteria set out in the *Statements of Learning for English* (Curriculum Corporation, 2005a). The Writing test varies from the other two literacy assessments, in that students in all year levels are given the same writing prompt (ACARA, 2011g). The type of text that students have been required to write has varied; initially students had to produce ‘narratives’ (2008, 2009, 2010) before being required from 2011 onwards to write a ‘persuasive’ text. As in the case of the other two literacy assessments, the marking criteria are dependent on the *Statements of Learning for English* (Curriculum Corporation, 2005a). However, unlike the other two assessments, marking panels around the different states and territories mark the writing tests. Members of the marking panels undergo some intensive training before the marking commences. Having served in 2008 on one of the writing panels, the marking process on my panel ensured consistency among the panellists by regularly including writing script samples, which all the panellists marked. The lead marker examined all panellists’ marks, and provided feedback to each individual on the panel. Thus each marker was made aware of any differences in their judgement compared to the panel at large.

The final NAPLAN test is the Numeracy test, which targets students’ mathematical knowledge, skills and understanding in the aspects of number; algebra; function and pattern; measurement; and chance and data (ACARA, 2011e). In addition to these areas, the students’ ability to *work mathematically*, in other words, to not only recall facts but to also *apply* and *reason mathematically* is assessed. Thus, the NAPLAN, though in the form of a standardised test with a degree of multiple-choice questions, does assess students’ ability to use both lower-order and higher-order thinking skills (Krathwohl, 2002).

In short, the range of testing used to measure and track students in Australian schools is comprehensive as well as extensive. The overall aim, as stated at the time of its introduction, is to monitor and measure students' progress (ACARA, 2011b). However, as the old saying goes: "weighing the pig will not fatten it". As pointed out by the UK's Assessment Reform Group and many others, simply conducting extensive and detailed assessment will not address the learning needs of students (Black, et al., 2003; Black & Wiliam, 1998c; Broadfoot, 2007; Klenowski, 2009; Weeden, et al., 2002; Wiliam, Lee, Harrison, & Black, 2004). Purposeful assessment relies on explicit and timely feedback that serves to drive learning forward. Also of great concern are the strong indications that high-stakes assessment such as the NAPLAN does not lead to learning improvement (Alexander, et al., 2009; Darling-Hammond, 2005, 2007, 2010; Queensland Studies Authority, 2009). Instead, as mentioned previously in this chapter, it leads to a narrowing of the curriculum at the cost of purposeful learning (Abrams, Pedulla, & Madaus, 2003; Berliner, 2011; Cheng, 1997; Klenowski & Wyatt-Smith, 2011; Madaus, Raczek, & Clarke, 1997; Nichols & Berliner, 2007; Shore, 2008; Wall, 2000).

Samuel Lobascher (2011) has found a strong pattern of teacher resistance to high-stakes testing, arguing that the problem lies with "the failure of policy-makers to effectively manage the introduction of accountability testing that encourages teachers to 'buy-in'" (Lobascher, 2011, p. 17). In his exploration of literature concerning high-stakes testing, Lobascher (2011) noted that a few exceptions among the many opponents to high-stakes testing do exist.

One such exception was the study into the effects of state testing on classroom teaching in five teaching districts in the US states of Maine and Maryland (Firestone, Mayrowetz, & Fairman, 1998). Exploring the responses of middle school teachers and administrators, this qualitative, embedded case study found that confident teachers responded to the implementation of high-stakes tests with an intellectually challenging, inquiry-orientated approach. The study concluded that both advocates and opponents of such testing policy perhaps overrate the effects of state testing on teaching. It found that teachers to some degree changed their practice in response to the introduction of the test; however, “those changes accommodated deep-seated approaches to teaching” (Firestone, et al., 1998, p. 111).

This is a pertinent observation in regard to this thesis, which draws on the idea of triadic reciprocity among individual teachers and students; their behaviour; and the curriculum goals. Indeed, this study originated as my response as a teacher to the NAPLAN. A trigger to this inquiry-based and student-directed approach was that I wanted my students to be explicitly aware of the context in which the NAPLAN sits. I wanted them to be informed and actively guided by the curriculum goals, and to use the process of addressing the goals productively to further their learning well and truly beyond the NAPLAN test in May. Similar to the teachers’ response to state mathematics tests in the US (Firestone, et al., 1998), the current study prompted a similar, inquiry-based response to high-stakes testing in the form of the NAPLAN.

Thus, my own view is that the NAPLAN by itself is a useful tool for teachers if used formatively. However, in 2014 there was a change in the test protocols, and schools are now expressly prohibited to copy student responses (ACARA, 2014).

This abolishes the opportunity to use the tests to inform proximal teaching. In its current form, the NAPLAN is used as an accountability tool, with a lag in results being returned to schools, and therefore rendering meaningful, timely feedback to inform teaching impossible. Instead of enabling constructive use of this assessment, the schools' results are published on the My School website (discussed below), rendering the NAPLAN to squarely constitute an accountability tool.

### **The My School website**

Australia's path towards increased accountability by focusing on educational measurements took further significant strides with the 2010 introduction of the My School website. The website is a forum in which all schools' NAPLAN results are displayed, with colour codes to show how the individual school's results in each strand of the NAPLAN and for each year level compares with "statistically similar schools" (ACARA, 2013b). The federal government's argument that "the Australian community will be able to see the pattern of attainment in individual schools" and that this "greater transparency will give parents, teachers and policy makers [sic] a much better understanding of the performance of individual schools" (Gillard, 2008, p. 4) appeared verified by the fact that the My School website crashed within hours the day it was launched, due to the number of hits on it (ABC News, 2010).

Before I examine the widespread criticism of the website, a brief outline of its set up is relevant. One positive aspect of the site is that it is user-friendly. The opening web page has a clearly labelled 'Find a school' field, with two options. The visitor can either 'search by school name' or 'search by suburb, town or postcode'. To

further simplify the search, the visitor can narrow the search by opting to include or exclude government and non-government schools.

Once a selection has been made, and the terms and conditions of site usage accepted, a page opens with the chosen school's details. A brief description of the school, together with separate fact boxes with information about the number of teaching staff, student enrolment, school finances and student background is displayed, each section with numerical data. The 'Student background' information is based on the ICSEA which, according to the My School 'Glossary' section, "has been developed specifically for the My School website for the purpose of identifying schools serving similar student populations" (ACARA, 2010, 2013b). The ICSEA is based on data about student family background such as parental occupation and their level of education. Where such information is missing, Australian Bureau of Statistics Census data is used (ACARA, 2011a).

To access the school's NAPLAN results, the site visitor clicks on 'NAPLAN' in a side menu. Five options then appear: 'Results in graphs'; 'Results in numbers'; 'Results in bands'; 'Student gain'; and 'Similar schools'. The graphs option has drop-down menus to select year level and NAPLAN test domain. The school's results every year since the 2008 introduction of the NAPLAN for the chosen year level and domain are displayed automatically with reference to the average of achieved band levels.

The 'Results in numbers' option automatically displays all the school's year level NAPLAN achievements in all literacy and numeracy domains for the selected year. Each result is colour-coded to compare the school's results with both 'SIM', which

refers to schools with statistically similar background (measured by ICSEA) or 'ALL', which refers to the Australian schools' average. The colour-coded comparison shows whether the school achieved 'substantially above' (deep green), 'above' (light green), 'close to' (white), 'below' (pink) or 'substantially below' (red) the NAPLAN tests compared to 'SIM' and 'ALL' schools. The achieved average result for each category is also displayed in numbers. The 'Results in bands' option provides both colour-coded and percentage information about the distribution of performance over the different bands in each test domain. Again, the school's performance is compared to similar and all Australian schools.

In short, the information about a school's NAPLAN performance is displayed in great detail on the My School site, with a clear emphasis on quantitative data. But what does it actually tell the site visitor? The website has been much debated since its launch. The Chair of ACARA, Professor Barry McGaw, notes on the My School opening page that:

The initial release of the website in January 2010 provoked much discussion on the validity and utility of the data it contained and the way in which those data were presented. It has been interesting to see the shift in the discussion since then. Analysts and press correspondents are much less likely now to challenge the data than to use them to clarify their thinking and support their arguments. That is very encouraging evidence of the value of *My School*.

(McGaw, <http://www.myschool.edu.au/>, accessed 2012, italics in original)

However, educational researchers are more critical. Ian Hardy and Christopher Boyle (2011, p. 211) argued that the website "reduces complex educational

practices to simple, supposedly objective, measures of student attainment, reflecting the broader ‘audit’ society/culture within which it is located”. The scientific rationale, which signifies this audit culture of which the My School is typical, puts an emphasis on quantifying results through narrow measurements in a test and does not reflect the complexity of learning and teaching (Hardy & Boyle, 2011; Lingard, 2010; Reid, 2009). Instead, as Hardy and Boyle suggested, it is an exercise in accountancy, within an audit culture concerned with routineised work, compliance-checking and specified guidelines. Val Klenowski (2011) called for alternative approaches such as moderation, for schools and teachers to form reliable judgements about students’ work and thus demonstrate accountability, rather than emphasising test results and standards-driven reform (Klenowski, 2011; Klenowski & Wyatt-Smith, 2011).

In my view, the My School website is a prime example of the current neo-liberal, competitive ‘stick-and-carrot’ approach to ‘raising standards’. It is a purely results-driven focus; a tunnel vision of literacy and numeracy, without consideration being given to whether the learning environment is one that fosters engagement in learning and a breadth of development in all areas of the curriculum. That is not to say that broader and deeper learning approaches do not drive the learning at high-performance schools. Drawing on the context of the school at which this study has been conducted—it does. However, the important philosophical views on how students best learn, as well as the practical approaches to providing students with rich and meaningful learning experiences, are not reflected accurately by simply reporting and colour-coding results on the My School website.

## **Widened perspectives: education, assessment and globalism**

It is of interest that the tendency to increase the focus on improving schooling and measuring students' achievements in national high-stakes tests has coincided with the discourse of globalism. Gideon Rachman's (2011) fascinating account of economic and political reform since the late 1970s portrays the profound transformation the world has undergone. From my perspective, having examined educational policies in Australia, the UK and the US, it is striking how the increasingly global financial patterns have coincided with increased efforts to monitor the nations' school systems and compare students' achievement in both national assessments as well as international assessment. Education is considered a vital tool as it develops 'human resources', thus providing companies and citizens with a competitive edge in the global markets (Gamble, 2010; Peters, 2001). Globalisation has "produced entrenched and enduring patterns of worldwide interconnectedness [...] resulting in almost all communities becoming enmeshed in worldwide systems and networks of interaction" (Rizvi & Lingard, 2010, p. 24, citing Held & McGrew, 2000).

The fusing of economic market perspectives and education is echoed by Alan Reid (2009), who describes how education in Australia under the Howard government increasingly became a market commodity driven by parental choice. When the Rudd government came to power in 2007, the education discourse increasingly came to emphasise how education is the key to developing human capital (Reid, 2009). Indeed, in the 'New Directions Paper' titled *The Australian Economy Needs an Education Revolution* (ALP, 2007), which introduced the 'education revolution' catchphrase, the ALP states that the best opportunity to improve productivity is

“raising the performance and accessibility of our education and training systems—primary, secondary and tertiary—particularly given their importance in deepening Australia’s human capital, on which innovation and economic growth will increasingly depend” (ALP, 2007, p. 9, quoting Gary Banks, 2003).

This emphasis of education’s role in generating human capital was again evident as the Australian Curriculum was proposed. Reid (2009) cites the then Education Minister Julia Gillard claiming that the national curriculum will be “future-oriented and will equip our young people with the essential skills, knowledge and capabilities to compete internationally and thrive in the globalised **economies** of the future” (Reid, 2009, p. 6; with reference to Gillard’s speech in the House of Representatives on 23 October, 2008, Reid’s emphasis).

#### *Standardised assessment in the global context*

Given the impact that globalised economies have had on education policy, it is hardly surprising that international assessment programs conducted by the Organisation for Economic Co-operation and Development (OECD) have been developed and consistently gained traction. Pasi Sahlberg (2006) notes:

Globalization is a cultural paradox: it simultaneously unifies and diversifies people and cultures. It unifies national education policies by integrating them with the broader global trends. Because problems and challenges are similar from one education system to another, solutions and education reform agendas are also becoming similar.

(Sahlberg, 2006, p. 262)

As education experts and policy-makers try to address the educational challenges in their context, they increasingly refer to international comparisons, to identify where lessons may be learned. Many international comparisons exist, but the most comprehensive and dominant in respect of attention from press, politicians and policy-makers is, without question, PISA. As Robin Alexander puts it:

In many countries during the past two decades, especially the 34 member countries of [the] OECD, the business of comparing educational systems and outcomes has become a political and media obsession, generating celebrations in some countries and panic and blame in others.

(Alexander, 2012, p. 1)

The OECD began work on the first PISA in the mid-1990s, with the first survey taking place in 2000. The PISA surveys have since been conducted every three years, with the number of participating countries rising steadily from forty-three in 2000 to sixty-five “countries and economies” in 2012 (Organisation for Economic Co-operation and Development [OECD], 2014). In this climate of global comparison of educational outcomes, PISA has gained enormous attention from policy-makers. In the Australian context, it is significant that three of the four subjects developed in the initial phase of the Australian Curriculum are the very same subjects that the PISA tests (ACARA, 2012b). The program measures the performance of 15-year-olds in reading, mathematics and science literacy. In addition, students are surveyed about their motivations, beliefs about themselves, and learning strategies. Principals answer a questionnaire about the school. Several optional PISA questionnaires are available to countries: the computer familiarity

questionnaire; the educational career questionnaire; and the parent background questionnaire (OECD, n.d.).

In an editorial to a special issue of *Assessment in Education: Principles, Policy & Practice*, on high-stakes testing, Gordon Stobart and Theo Eggen (2012) made the astute observation that current international assessment comparisons have introduced a new high-stakes phenomenon. In contrast to traditional high-stakes tests, which carry significant consequences for the test-taker, this new form of high-stakes tests “[is] low-stakes for individuals taking them and for their schools but high-stakes for politicians, policy makers and governments” (Stobart & Eggen, 2012, p. 1).

It is tempting to be sceptical of all these recurring assessments, which essentially constitute a worldwide league table of student achievement in important, but narrow, subject domains. The question of the breadth of the assessments is significant because despite all being discipline focused; for example, PISA claims to emphasise higher-order thinking skills and application of problem-solving, thus testing students’ abilities to think critically in a contextualised fashion, rather than simply regurgitate studied facts. The interesting difference is the underlying curricular approach and method of teaching students. Essentially, two approaches exist: the narrow curriculum and the wide curriculum.

The US, the UK and Australia have all implemented curricula with highly prescribed literacy and numeracy outcomes, accompanied by quantitative high-stakes assessments in literacy and numeracy with an explicit accountability agenda, resulting in results being made official (Alexander, 2012; Darling-Hammond, 2007;

Hardy & Boyle, 2011; Lingard, 2010). Other countries such as Finland and Hong Kong, whose educational approaches are outlined below, emphasise a wide curriculum, in which complex, key ideas are explored through interdisciplinary approaches. This is contrary to the global movement of education, which narrows the curriculum by increasing the focus on numeracy and literacy (Sahlberg, 2011). These countries, particularly Hong Kong and Finland, also differ by using assessment at a grassroots level to inform and improve classroom practice, rather than using a top-down approach to accountability with high-stakes assessment as a published official monitoring tool. From a perspective of triadic reciprocity, a wide curriculum, and certainly a grassroots-driven focus to develop quality learning, implies that factors from the intrapersonal domain have a central role and shaping the learning that goes on in any given classroom.

In a report on the findings from a four-year study into different ranges of national response to educational reform, undertaken by the European Commission, Ivor Goodson (2010) concludes by stating:

Since neo-liberalism has pushed more transparency over accountability and educational results, it seems strange that [countries undergoing educational restructuring] have not drawn any lessons from the PISA study of educational standards. These show with deafening clarity that those that have pursued neo-liberal reforms in the fastest and deepest manner, such as England, perform very poorly in educational standards. Meanwhile those that have defended a social democratic vision and explicitly valued professional autonomy such as Finland have produced top rate educational standards [therefore] it would seem time to seriously scrutinise the neo-liberal orthodoxy in the field of education.

(Goodson, 2010, p. 775)

Appealing as this seems in its simplicity, perhaps the reality is more complex. To simply surmise that the success of the top performing countries in PISA is due to their official rejection of assessment for accountability measures is flawed, for two reasons. First, it uses the very measure of performance it criticises, by simply interpreting test scores as a direct indicator of all students' learning. Second, it lacks a time perspective and nuanced context. The next section of this chapter aims to examine some aspects of the educational regimes of three countries, which all have been lauded for their educational success.

### **International assessment achievements of Hong Kong, South Korea and Finland**

Finland, South Korea and Hong Kong, despite their obvious differences in locality and language, have quite a few things in common. They are countries which traditionally hold education in high esteem and which have gained the attention of the education research world, through their respective students' achievements in international assessments such as PISA.

Hong Kong's results in international comparisons indicate high achievements in such assessments, but what do we actually learn from this? Are these international comparisons robust indicators of good education? "Are we taking too much notice of some kinds of evidence and too little of others?" as Robin Alexander (2012) asked before concluding that large-scale student achievement studies such as TIMSS (Trends in International Mathematics and Science Study), PISA and PIRLS (Progress in International Reading Literacy Study) receive the most amount of publicity and the most attention of policy-makers, despite being vastly outnumbered by qualitative, descriptive studies. These descriptive studies have significant policy

applications, but “the imperatives of policy are not their starting point. Rather, their goal is the advancement of educational understanding for its own sake. Following Michael Sadler, they compare to learn, not to copy” (Alexander, 2012, p. 4). So let’s do just that, let’s compare to learn!

### **Hong Kong’s broadened approach to learning**

Hong Kong’s gradual break with its tradition as an examination-led education system began approximately twenty years ago, with the introduction of the Target Oriented Curriculum (TOC), which aimed at narrowing the gap between exam rooms and the real world (Cheng, 1997, with reference to the Hong Kong Examinations and Assessments Authority, 1993). The TOC sought to address problems with the overcrowded and fragmented curriculum; the overemphasis of rote learning on discrete content, with minimal catering for individual learner differences (Carless, 1997). Instead, the TOC stipulated a coherent and comprehensive curriculum framework with an integrated and progressive set of learning targets. It was strongly influenced by outcomes-based education, drawing on both the UK’s National Curriculum and curriculum frameworks in Australia (Morris, 2002). Learning activities in the TOC stressed purpose, context and the process of carrying out the task, and considered the result and required skills (Carless, 1997). Assessment, which previously had predominantly been used for ranking students, became target-related assessment ‘Bands of Performance’ criteria (Carless, 1997).

The traditional exam-driven focus was further reduced, following the 1997 return of Hong Kong to the People’s Republic of China from the UK. In 1999, Hong Kong

embarked on its *Learning for Life, Learning through Life* education reform. This advanced the Assessment for Learning (AfL) initiative, which had been introduced with the TOC (Carless, 2005). The new direction was explicit in its student-focused, quality-driven, life-wide learning initiative. “The key to the realization [...] is to create favourable conditions for students to develop their ability and quality, while leaving room for frontline educators to put their aspirations into practice” (Education Commission, 2000, p. 6.).

For a study such as this thesis, which investigates how students’ attainability of learning outcomes are affected when they exercise their direct judgement on how to reach explicit curriculum goals, it is striking that the very first principle mentioned in the Hong Kong learning reform is student-focused learning:

- The main purpose of the education reform is to give students more room and flexibility to organise and take charge of their own learning.
- Students should be the main protagonists in learning. The ultimate objective of education is to enable every student to achieve all-round development according to his/her own attributes. It therefore follows that in reforming the education system and the methods of learning and teaching, students’ needs and interests must be the foremost consideration.

(Education Commission, 2000, p. 36)

The key role that student-centred learning plays in the Hong Kong education reform is worth exploring further, but it must also be considered from a cross-cultural perspective. A study into Hong Kong teachers’ conceptions and practices of assessment (Brown, Kennedy, Fok, Chan, & Yu, 2009), using structural modelling in a cohort of nearly 300 teachers from fourteen primary and secondary schools,

found a very high correlation between student accountability and improvement conceptions ( $r = .91$ ). This is where the cultural perspective is significant. In western cultures such as Australia, for example, a student-centred approach implies student choice and creativity (McLeod & Reynolds, 2006). In a Confucian society such as Hong Kong, the emphasis is on accountability. The Learning for Life, Learning through Life reform emphasised the goal “to ensure that every student attain the basic competencies, while those with greater potentials be allowed to further excel” (Leung, 2000, p. i). To excel students’ learning, formative assessment was recommended:

The major function of internal assessment is to facilitate learning and teaching and help teachers understand the learning progress and needs of their students. It should be used as a reference for planning the curriculum, designing teaching methods and giving guidance to individual students to enhance the effectiveness of learning and teaching.

(Education Commission, 2000, p. 10)

Hong Kong’s Curriculum Development Council (2001, cited in Brown et al., 2009) also put AfL at the forefront, by stressing the importance of teachers providing feedback to students and suggesting that schools include key attitudes and self-management qualities in students’ report cards (Brown, et al., 2009). Similar to the difference in teachers’ perceptions of what constitutes a student-centred approach, the study by Brown et al. identifies a cultural difference in how AfL is used. The essential part of formative assessment and AfL is feedback (Black, et al., 2003; Black & Wiliam, 1998a, 1998c; Wiliam, et al., 2004), and the use of feedback is evident in Hong Kong as well as in western teaching contexts (Lee, 2007). The difference is that in western societies, AfL is frequently used in an informal manner,

as a process. Black et al. (2003) sum up formative assessment as “usually informal, embedded in all aspects of teaching and learning, and conducted by different teachers as part of their own diverse and individual teaching styles” (p. 2).

In Hong Kong, Brown et al. (2009) found that teachers used assessment to improve teaching, diagnose student learning and to prepare students for examinations. However, the study noted that “some consideration must be given to the inverse relationship between the conception of assessment *for* improvement and the practice of making students accountable through assessment, especially in the light of the strong correlation between improvement and student accountability conceptions” (Brown et al., 2009, p. 358, emphasis in original).

In relation to the SDA, it is therefore important to point out that while student agency and self-management skills are central both in the Hong Kong approach and SDA, the two differ in respect of student accountability conceptions. Student agency and self-management are scaffolded in the SDA in a reciprocal relationship with the teacher, who is ultimately accountable for providing the scaffolded support needed for students as they actively engage in the Assessment as Learning process. Research evidence from Hong Kong suggests that such a reciprocal approach to teaching and learning is lacking. For example, a study into the use of feedback in Hong Kong secondary classrooms by Icy Lee (2007) points to assessment largely being used retrospectively, with feedback informing students of errors they have made. “[S]tudents’ writing served a primarily summative purpose, with teacher feedback being used to evaluate student performance retrospectively (rather than prospectively) without opportunities for students to act on teacher feedback by revising their drafts to close their gaps in writing” (Lee, 2007, p. 188). Nevertheless,

the assessment reform in Hong Kong has involved a focus on AfL, as well as articulating the intention to give students a broad education.

In 2001, Hong Kong's Curriculum Development Council launched the *Learning to Learn* initiative. The policy explicitly emphasised lifelong learning and whole-person development as essential in meeting the challenges of the twenty-first century. Both the *Learning for Life* and the *Learning to Learn* reforms aim to enhance all-round development in students as well as cater for different aptitudes and abilities. At the time of introducing the reforms, concerns were raised that this new direction would result in a drop of academic standards and that the elite would be sacrificed in the name of equity. Anthony Leung, the Chairman of Hong Kong's Education Commission, wrote the reform's foreword:

We must emphasize that the enhancement of the standard of students in general is never in conflict with the nurturing of academic excellence. Instead, we believe that all students have vast potentials, and education enables them to fully develop. Excellence is essential for the society, but a monolithic educational system can only produce elites in the very narrow sense of the word. The elites we need today are multifarious, and only a multifarious educational system, with diversified curricula, teaching methods and assessment mechanisms can produce the multi-talented people expected by the society. Similarly, learning should be enjoyable, and it does not follow that students will not work hard. It is only through hard work and achievements that they will derive satisfaction and joy. "All-round development" is never the excuse for the lowering of academic standards, but rather the call for students to achieve a wider spectrum of competencies.

(Leung, 2000, pp. i-ii, use of quotation marks in original)

Obviously, it is possible there is a discrepancy between Leung's interpretation of students' achievement of a wide spectrum of competencies and mine, as a teacher and researcher in Australia. However, this foreword strikes me as a sensible, grounded approach to setting high goals for education. It echoes the idea of triadic reciprocity by emphasising intrapersonal dimensions such as interest, understanding, reflection and values, with factors such as persistence, effort, and the development of skills and learning behaviours in relation to standards and goals expressed by the curriculum.

Such an approach corresponds with the principles of authentic assessment by aligning real-life competencies with curricular objectives, which involves assessment tasks that have instructional value and serve a learning function (Bagnato & Hsiang Yeh, 2006).

Despite these lofty goals, the reality of using AfL as part of primary classroom practice in Hong Kong has been fraught with difficulties. Paul Morris and Ian Scott (2003) have found that education reform in Hong Kong, both before and after the end of British colonisation in 1997, largely have remained at the level of good intentions by policy-makers rather than implemented successfully into classroom practice (Johns, 2002; Lee, 2007; Morris & Scott, 2003). Carless (2005) refers to two small-scale research projects carried out by classroom teachers as part of their postgraduate degrees. In both cases, the teachers' attempts to use progressive assessment practices involving peer assessment and self-assessment were met with "a lack of empathy or support from principals or colleagues and a lack of encouragement for their innovative work" (Carless, 2005, p. 50). In contrast, other researchers notice an increased application of AfL in primary classes, with project

learning, and self- and peer assessment the most popular strategies (Yu, Kennedy, Fok, & Chan, 2006).

### **Education reform in South Korea**

South Korea has also engaged in extensive education reform. Two distinctive features, an egalitarian ideal and a zeal for education (Kim, 2002), have driven South Korea's educational success and powered the 'economic miracle', which has seen the country rise "from barefoot to broadband since 1960" (*Economist*, 2011). In respect of this thesis, it is not the economic miracle per se that is relevant, but the later educational reforms' explicit focus on Self-Regulated Learning (SRL), that is pertinent.

In the early 1960s, the Korean government introduced a series of five-year economic development plans with an emphasis on labor-intensive export industries, which demanded educated manpower. The curriculum at this period logically focused on practicality of education (Kim, 2002). As Korea become more industrialised, the demand for a more highly skilled workforce grew, which in turn lead to a more discipline-oriented curriculum with an emphasis on science and technology (Kim, 2002).

Korea's meritocratic approach to education has meant that education poses possibilities for students from poor backgrounds to enjoy a prosperous future, but it has come at a cost of fierce competition in high-stakes exams such as university admissions, with an extraordinary amount of private tutoring following as a result. For society at large, in the age of the knowledge economy, having a hard-working

and highly studious population has vastly contributed to the country's dramatic economic growth in recent decades (Byun & Valentine, 2009).

As Korea's economy became more diversified, the government's need to steer education to match industry became less evident. It "became neither feasible nor desirable for the government to plan when and where the educated manpower would be most needed or to direct the education system's response. Society also became more democratized, and the capacity of the civilian sector increased accordingly" (Kim, 2002, pp. 30-31). It was at this stage that the Education Reform Proposal (ERP) was launched, in 1995. This reform aimed to reform Korea's traditionally authoritarian education system with high-stakes assessment by preparing children for a knowledge society through abolishing "socially undesirable practices associated with school education, such as exam-oriented classroom teaching and learning process, and unreasonable private tutoring expenditures" (Kim, 2002, p. 36).

As in Hong Kong, the new direction in education required the curriculum and teaching methods to reflect real life by "cultivating humanity and creativity" (Kim, 2004, p. 128). The ERP was introduced by the Kim Yeong Sam Government, which pushed for open education, especially for the primary years. Traditional grade-level paper-and-pencil tests for all primary students were abolished and replaced by performance assessment (Kim, 2004). This initiative broke with South Korea's longstanding educational zeal for putting exams at the centre, underscored by extreme and harsh competition (Lee, 2010). In addition, non-academic abilities were put on a footing of equal value to academic abilities and emphasised the significance to the teaching and learning process.

South Korea's Ministry of Education announced policy directives that emphasised a student-centred curriculum, with diverse learning activities and promotion of learning according to students' aptitudes, talents and abilities (Bray, 2007; Kim, 2002). Critical and higher-order thinking were integrated into the curriculum to counter-balance the tradition of rote learning and memorisation (Lee, 2010). The reform of assessment entailed changing the college entry system to be based on recommendations, instead of the College Scholastic Ability Test (Kim, 2004). Secondary schools had to replace norm-referenced tests with criterion-referenced performance assessment.

However, Korea's path of educational reform has been complex and contradictory, resulting in a heated debate between the supporters and opponents of the different policy directions (Kim, 2004; Kim, Joo, Kim, & Park, 2009). The tumultuous changes have not been exclusive to the area of education. In November 1997, two years after the May 31 Reform was introduced, Korea suffered a financial crisis of significant proportions, leading to an International Monetary Fund (IMF) bailout, with a series of structural reforms in December 1997 (Chang, 1998). Following the IMF bailout, the Kim Dae-jung Government changed its education policy to stress product rather than process (Jeong, 2003; Kim, 2004).

With respect to schooling, a more uniformed, top-down approach was introduced in the wake of the 1997 IMF crisis. The National Scholastic Achievement Assessment (NSAA) was introduced in 1998, accompanied by a host of reforms such as school evaluation, teacher evaluation and "summative, external, goal-oriented, quantitative data-based evaluation, and sanctions and rewards" (Kim, et al., 2009, p. 100).

This focus on accountability and the quality of education is closely linked to the Korean government's aim to reduce the impact of after-hours private tutoring academies, *hagwons*. Despite the government's efforts since 1995 to reduce the "inordinate amount" of money spent on private tutoring (G.-J. Kim, 2002), parents have remained reluctant to change the entrenched behaviour, and continue to make huge financial sacrifices. In 2010, it was estimated that 74% of all students in South Korea took part in some kind of private after-school instruction, a cost amounting to 2% of the country's Gross Domestic Product (Ripley, 2011).

Josh Sung-Chang Ryoo (2011) argues that since 2010, the Korean government has put forward another argument for steering away from private tutoring: self-directed learning (Ryoo, 2011). According to Ryoo (2011, p. 346), the Korean Self-directed Learning Policy continues the policy direction from the Education Reform in its efforts to "further democratiz[e] the society" by "preparing [the] next generation to be more autonomous" by developing "creative and autonomous talent".

In its articulation of self-directed learning policy, the Korean Ministry of Education drew on SRL theory (Zimmerman, 1989, 1990, 1998; Zimmerman & Martinez-Pons, 1988) and self-directed learning theory (Knowles, 1975). As explained in Chapter 1, self-directed learning theory was originally developed in an adult-learning context and emphasises the learner's control over the planning and execution of learning (Brookfield, 1985). SRL is strongly associated with successful academic performance and is concerned with how students develop the ability to regulate their cognition, motivation and behaviour to become masters of their learning (Zimmerman, 2008b). The Korean self-directed learning policy stresses self-controlled motivation, cognition and behaviour, while asserting:

[S]elf-directed learning does not mean studying alone without anyone's help, nor being smart enough to take care of every step of learning, but can be enough even for one subject as deeper interest and motivation for one particular field of topic is better than covering a gamut of subjects with low levels of interest and motivation to learn.

(Ryoo, 2011, p. 347, with reference to *A guide to self-directed learning* by the Korean Ministry of Education, Science and Technology, 2010)

While Ryoo (2011) posits that the Korean push for self-directed learning stems from the government's desire to counter parents' high private spending on tutoring, the South Korean emphasis on the key role of learner is pertinent to this thesis. As discussed further in Chapter 3, research into SRL has established that students' interest and motivation to learn do lead to higher performance (Bembenutty, 2011; Boekaerts & Corno, 2005; Chatzistamatiou, Dermitzaki, Efklides, & Leondari, 2013; Cleary & Zimmerman, 2004; Cross & Paris, 1988; Perry, 1998; Pintrich, 1999; Schunk & Ertmer, 2000; Schunk & Pajares, 2005; Winne, 2011; Zimmerman, 1990, 2008a; Zimmerman & Schunk, 2011). In addition, it is noteworthy that agentic engagement (Reeve, 2013; Reeve & Tseng, 2011), which refers to students' role in constructively contributing to instruction, has strong links to South Korea, as the majority of the research in this emerging field has been conducted there (Cheon & Reeve, 2014; Jang, Kim, & Reeve, 2012; W. Lee & Reeve, 2012; Reeve & Lee, 2014). Agentic engagement is a key component of this thesis, and it underpins the discussion in Chapter 7 to a significant degree.

Both Hong Kong and Korea perform well in international comparisons such as PISA. Both are also examples of meritocratic societies in which education is held in high regard and in which education reform introduced in the last twenty years have

begun to break away from longstanding traditions of an exams-driven curriculum. This chapter now shifts its focus to a third country, Finland, in order to examine if the same attitudes, schooling traditions and assessment reform are apparent there.

### **Teachers as important individuals: Finnish approaches**

Teaching and learning in Finland is characterised by a pronounced level of confidence in the highly qualified teachers and principals as professionals (Sahlberg, 2009). The education system itself is the result of forty years of measured and thorough policy development, which has culminated in a culture signified by diversity, trust and respect (Sahlberg, 2009). These elements span over the entire society structure and are by no means exclusive to the education system. Interestingly, given the discussion above of education in Hong Kong and South Korea, Hannu Simola (2005) suggests “there is something archaic, something authoritarian, possibly even something eastern in the Finnish culture and mentality. There is also something collective that, in a distinctive way, permeates the Finnish schooling culture” (Simola, 2005, p. 458).

Several researchers emphasise that the success of the Finnish education achievements is the result of the highly equitable society in which distinctive social values are commonly accepted (Hargreaves, Halász, & Pont, 2007; Lingard, 2010; Sahlberg, 2006, 2007, 2009, 2010). Consequently, Sahlberg (2009) warns that attributing the Finnish educational success to a narrow set of particular ideas and innovations distorts the nuanced intricacy that underpins the Finnish system. Although Sahlberg does not use the term ‘triadic reciprocity’ and bases his work in sociocultural theory, he describes the nexus of the Finnish model in similar terms

that are applicable to a social cognitive framework: “In the complex system, interactions among elements of the system determine the behavior of that system as much as its individual elements” (Sahlberg, 2009, p. 22 in PDF version of Sahlberg’s chapter). In particular, he points to sociocultural factors such as trust in public institutions, high work morality and a long reliance on the social value of literacy and education and what Sahlberg (2009) refers to as “good educational leadership” within schools. The latter can, from a social cognitive perspective, be attributed to the individual leader’s competence and ability to exercise their professional judgement, which relate to personal factors.

Finnish instructional approaches are diverse, even complex, and bear strong connections to what social cognitive theory characterise as personal factors and their reciprocal influences on behaviour (Bandura, 1986). Teachers are encouraged to try new ideas, cultivate creativity, risk-taking and learning through innovation (Sahlberg, 2006, 2009; Simola, 2005).

Interestingly, the reciprocal interactions between the individual and their innovative approaches to pedagogical practice appear to primarily apply to teachers, rather than individual students. Classroom observations from Finland have noted highly teacher-centred instruction with individualised or student-centred approaches being scarce (Norris, Asplund, MacDonald, Schostak & Zamorski, 1996 in Simola, 2005). This selective modus operandi is further complicated when set out by the Finnish National Board of Education. The curriculum outlines student-centred approaches, which in turn are highly dependent on the teacher’s expertise in setting the scene for active learning. Under the heading ‘Working Methods’ the Finnish curriculum, when translated into English, states:

Instruction shall use diverse and discipline-specific working methods to support and guide student learning. The methods' aim is to develop students' ability to learn; think and problem-solve; collaborate and function socially and by active participation. [...]

The teacher determines the working methods. The teacher's task is to teach the student and to guide his or her learning through both individual and group work.

(Finnish National Board of Education [FNBE], 2004, p. 17)

Clearly, the individual student's ability to interact through active participation in the wider social context depends on the individual teacher's competent design of learning situations. It also relies on the teacher's pedagogical practices. This causal relationship between the individual and behavioural practices bears strong connections to social cognitive theory and its framework around triadic reciprocity, which, in the Finnish curriculum, is illustrated by describing the teacher's influence on methods, which in turn reciprocate with the individual student.

The social cognitive underpinning of the Finnish curriculum is further evident in its articulation of self-regulatory qualities that the working methods aim to develop. Self-regulated learners are learners who confidently approach learning tasks in a mindful manner by proactively setting goals and developing a plan for attaining the goals (Cleary & Zimmerman, 2004). The stipulated working methods in the Finnish curriculum reflect individual self-regulatory influences such as motivation, which in the Finnish curriculum is expressed as 'the desire to learn'. In line with the proactive goal-setting of SRL, the Finnish working methods "view learning as a

goal-oriented process [and aim to] promote goal-oriented work” (FNBE, 2004, p. 17). Furthermore, the Finnish working methods state that students should “develop the ability to gather, apply and evaluate knowledge” (p. 17) and to develop students’ preparedness “to take responsibility for and assess their own learning; and receive feedback which enables further reflection on the students own progress” (p.17). This aligns with what Barry Zimmerman (2000) defines as the three phases of the SRL cycle; forethought, performance and self-reflection (Zimmerman, 2000).

From a triadic social cognitive view, the Finnish working methods also reflect reciprocal behavioural and social components, also associated with SRL. For example, Finnish students are required to develop their learning strategies and ability to apply suitable strategies in new learning situations, which infers a combination of behavioural, environmental as well as individual factors. The triadic interaction of factors between the social and environmental factors with both behaviour and the individual is further emphasised in the working methods. The methods are expressly aimed to “support the learning which reciprocally occurs between peers” and to advance students’ “social flexibility and ability to collaborate constructively and to take responsibly for others” (FNBE, 2004, p. 17).

### **Intelligent accountability in Finland**

Sahlberg (2007, 2010) refers to the Finnish curriculum as being underpinned by “intelligent accountability” which he describes as “students and teachers [...] [needing to] have clear responsibilities regarding their work in schools. In other words, a certain amount of school accountability is needed but it should be designed and put in practice wisely” (Sahlberg, 2010, p. 48). Again, the triadic components

of social cognitive theory are evident. For example, Sahlberg (2007, 2010) expounds intelligent accountability as conditioned by teachers' and students' responsibility regarding their work. This denotes a reciprocal system, developed by and from individuals and the associated behaviours in the pedagogical context. Having examined a large number of studies, Sahlberg (2010) concluded that "evidence from various international sources does not support the idea that test-based accountability would be a proven strategy for sustainable school improvement" (p.52). By contrast, intelligent accountability uses a wide variety of data to determine a school's strengths and weaknesses and whether or not it meets its goals.

The importance of using nuanced approaches to achieve improved student learning is by no means exclusive to Finland. In the Australian context, Klenowski (2013) argues that the increasing diversity of the student population makes the need for supportive pedagogic approaches and alternative assessment approaches imperative. Consequently, rather than rely on accountability practices framed by standardised assessment which she argues inhibit and limit teachers' pedagogical practices, Klenowski (2013) calls for intelligent accountability and social justice initiatives to provide "alternative, inclusive, participatory approaches to student assessment" (Klenowski, 2013, p. 1).

Intelligent accountability as described by Onora O'Neill (2002, 2013), is in itself an example of a triadic reciprocal relationship of the individual, the wider social framework and the professional practices accounted for. O'Neill (2002, 2013) stressed that intelligent accountability is squarely focused on the proper aims of professional practice, which in an educational context means that practice should

focus on teaching and learning rather than on publishing targets in tables. Thus, professional practice and associated behaviour reciprocates with the individual's competence. The third component, the environment or social context, is in an intelligent accountability framework constituted by the public. While O'Neill (2002) argued for evidence-based approaches to accountability, she cautioned that much of teachers' professional practice cannot easily be measured and boiled down to a set of performance indicators (O'Neill, 2013). This, in turn, requires nuanced judgement, based on experience and substantive knowledge, which Sahlberg (2009) describes as being the basis of the Finnish system.

Teachers' educational and instructional expertise in Finland is identified to consist of curriculum, content and pedagogical knowledge (Happo, Määttä, & Uusiautti, 2012). Iris Happo and her colleagues (2012) describe how teachers with sound curriculum knowledge utilise appropriate content and structure to optimise their teaching. In addition, "content knowledge contains the competence of knowing how to teach young children. Pedagogical knowledge contains the choices made in the teaching situation as well as practical action" (Happo et al., 2012, p. 488). From a social cognitive standpoint, the individual teacher's knowledge is reciprocal with the wider system through their highly developed understanding of the curriculum. These two components then influence behaviour and practice as the teacher's pedagogical knowledge is implemented.

### **Teacher-centred or student-centred? A personal reflection**

My intention with this chapter was to gain a broader perspective, well beyond the confines of the school where the study was conducted, to examine the situational

influences in a macro perspective. Certainly, the significant changes to Australian education policy had a significant impact on my practice as an Australian primary school teacher. In particular, my own experiences of teaching a Year 5 class the year that the NAPLAN was launched prompted me to further reflect on my practice and stimulated a sense of ownership in using the accompanying resources constructively. Indeed, this very thesis is the direct result of my reciprocal response to this situational influence. Per se, this reaction was not unique; for example, an observational study by William Firestone, David Mayrowetz and Janet Fairman (1998) found that confident teachers reacted to high-stakes tests with an intellectually challenging, inquiry approach to teaching practice. From this, one can deduce that a teacher's intrapersonal factors, in this case confidence or self-efficacy, makes a significant difference, not only to how they perceive high-stakes assessment, but also to the actions they take as teachers in regard to their practice. From a perspective of triadic reciprocity, this makes perfect sense.

In regard to my decision to include perspectives from Hong Kong, South Korea and Finland in this chapter, it was initially these nations' track record of high performance in international assessments such as PISA which prompted me to examine the policies in more detail. As I began to familiarise myself with educational policy documents from these countries, I found many connecting points with the aims of SDA. Again, the notion of triadic reciprocity among situational influences; intrapersonal influences in regard to knowledge, motivation and understandings; and actions taken by teachers to influence learning, strengthened my view of the importance of the individual—teacher as well as student.

Overall, it would seem that these three high-performing countries share traditions which value education and in which instruction is largely teacher-focused. At first glance this would seem to be in complete contradistinction with the approach in this study, which, by its very definition, clearly is student-centred and student-directed.

However, as I view this through a social cognitive framework, clear similarities emerge. In the SDA approach, the teacher plays a crucial role as a facilitator who constructs an environment in which learning occurs at the point of need. The relationship among the teacher, the learning situation and the individual student is thus reciprocal because it relies on the learner becoming aware of the learning goals. As such, the assessment as learning process reflects the steps of the SRL cycle: forethought, performance and self-reflection (Zimmerman, 2000). In the SDA approach, the teacher scaffolds the students' learning journey by setting up this scene for learning, in which the student comes to realise what he or she needs help with. This requires the student to invest in the learning process, which requires cognitive engagement and intrinsic interest in the task. The process of planning and directing their assessment causes focused learning and teaching behaviours, which in turn relate to the learning outcomes stipulated by the curriculum.

Yet, as discussed in this chapter, I also note that the policy and curriculum documents from these nations articulate a strong focus on the student as active, reflective and motivated learners. This echoes the notion of triadic reciprocity among the individual, behaviour and contextual factors, which is central to this thesis. The individual factors relate to both the student and the teacher. In the SDA approach, while clearly student-centred, the teacher plays a crucial role as a facilitator who teaches at the point of need, when the student is aware of a key

aspect of learning that they, through the process of directing their assessment, have identified they need help with. This requires a high degree of awareness of how students learn as well as clarity of purpose for teaching, which is precisely what prompted this study. It is also what I hope this study contributes to teaching practice as well as the research field of assessment as learning.

### **Key understandings in this chapter**

This chapter has situated the study in relation to the wider context of national and global education reforms, which this thesis argues constitute situational factors that influence classroom practice. A key point raised in this chapter is that educational reform is strongly influenced by an economic agenda, in which national curriculum goals articulate governments' aspirations for the nation's next generation of human capital in a globalised economy.

However, this is not to say that the educational goals for the next generation are flawed, or that there is no room for teachers and students to make these goals meaningful—quite the contrary. In Australia, the National Curriculum Board's educational goals state that successful learners are “creative and resourceful and are able to think critically, analyse information and solve problems[;] able to learn and plan activities independently, collaborate and communicate ideas [; and] are motivated to reach their full potential” (National Curriculum Board, 2008, p. 3).

This thesis argues that in order to fulfil these goals, a reciprocal approach is needed in which teachers support students in becoming independent and skilful learners. This requires mindful teaching and learning actions, which explicitly connect with intrapersonal factors such as cognition, motivation, interest, knowledge of strategies,

and confidence in ability, in relation to the curriculum goals. In a reciprocal relationship, these intrapersonal considerations are equally relevant for students as they are for teachers to develop. Furthermore, when learning is examined in a framework of triadic reciprocity (Bandura, 1986), a meaningful examination of pedagogical practice and intelligent accountability is possible.

This thesis now turns to examine the existing understandings of the different reciprocating factors, which influence SDA.

## Chapter 3: Review of literature to inform the study

### *Chapter organisation*

This chapter provides a synthesis of the dominant literature, which informs this thesis's understandings of how Student-Directed Assessment (SDA) shapes learning. The review of literature is organised into three threads that underpin the discussion in the three 'findings' chapters, which follow after this chapter. The threads of literature are:

- (1) Students' central role as agents in the learning process.
- (2) Using assessment to motivate and engage students in learning.
- (3) Using assessment to foster students' development of creative thinking skills.

In contrast to much of the formative assessment literature, which tends to focus on the teachers' practice, this thesis adopts the stance initiated by Lorna Earl (2003) in which the focus is on the student's role as a critical connector between assessment and learning. Consequently, the work of Earl and her colleagues (2003, 2006, 2011, 2013; 2006, 2008) is central to this review and forms the core from which the broader field of Assessment for Learning (AfL), with particular regard to learner agency, is critically examined.

For organisational purposes, the three threads of this thesis's literature review are presented as separate chapter parts, which in turn are arranged into sub-parts that correspond with the three reciprocal domains of social cognitive theory (Bandura, 1986). In particular, intrapersonal influences in the form of cognition and affect;

behaviour in the form of action taken to facilitate learning; and social influences in the form of values and task demands in the classroom environment, guide the review in each of the literature threads. Other situational factors such as curriculum demands were discussed in the previous chapter. This approach has deliberately been chosen to allow meaningful integration of understandings from formative assessment literature, with a particular focus on learner agency (Crooks, 1988; Havnes, Smith, Dysthe, & Ludvigsen, 2012; Hawe & Parr, 2013; Marshall & Drummond, 2006; Wiliam, 2011; Wiliam & Thompson, 2008) and empirical and theoretical literature from the fields of Self-Regulated Learning (SRL) (Perry, 1998; Perry & Rahim, 2011; Pintrich, 2004; Randi & Corno, 2000), creativity (Beghetto, 2010; Hennessey & Amabile, 2010; Kaufman & Beghetto, 2009; Sternberg, 2003, 2006) and engagement (Fredricks, Blumenfeld, & Paris, 2004; Reeve, 2012, 2013; Reeve & Tseng, 2011; Reschly & Christensen, 2012; Skinner & Pitzer, 2012).

The thesis seeks to integrate the dominant understandings from the relevant fields of educational psychology, with pedagogical literature relating to assessment *as* learning (Earl, 2013; Leahy, Lyon, Thompson, & Wiliam, 2005; Wiliam, 2011), a niche area of AfL. As Terry Crooks (2011) pointed out, assessment *as* learning fits well within the concise definition of assessment *for* learning, which has been defined in a position paper as: “[...] part of everyday practice by students, teachers and peers that seeks, reflects upon and responds to information from dialogue, demonstration and observation in ways that enhance ongoing learning” (Position Paper on Assessment for Learning, 2009, p. 2).

Literature to inform this study was sourced using search terms which included: SRL; engagement; motivation; self-directed learning; self-assessment; assessment ‘for’ and ‘as’ learning; and related terms. The early literature on educational assessment tends to use the term ‘evaluation’, which consequently also was used as a search term. In addition, the literature searches included searches for peer-reviewed literature on creativity, with particular regard to research in educational contexts.

### **THREAD 1: STUDENTS AS AGENTS IN THE LEARNING PROCESS**

As previously stated, the core of this thesis is concerned with exploring students’ central role in learning. This position is reflected in the very premise forwarded in this thesis: ‘Student-Directed Assessment’. In line with the notion of students having an active role in steering—directing—their learning through choices is the concept of agency, which refers to how an individual takes the initiative to shape experiences and events (Bandura, 2000; D. Butler, 2011).

The importance of student agency has been noted in several seminal reviews of formative assessment, such as Crooks’s (1988) synthesis of fourteen specific fields of research into the relationships between classroom evaluation practices and student outcomes, with a pronounced focus on research examining the effects of assessment on students with respect to the cognitive and affective domains. Thus, Crooks (1988) articulated a focus shared by this thesis. Crooks made distinct links between formative assessment and SRL in his recommendations for educational practice. He also argued that classroom evaluation has the potential to

have a powerful, positive impact by guiding students' judgement of what is important to learn (Crooks, 1988). More recently, Reeve and his colleagues (Reeve, 2009, 2013; Reeve & Lee, 2014; Reeve & Tseng, 2011) have emphasised the student's role as an active contributor to the learning process by describing how students not just *react* to learning activities, but take a *proactive* role by enriching the learning process. This involves students transforming tasks to something more interesting and optimally challenging, by personalising learning experiences through communicating task preferences and thus contributing to a more meaningful learning experience.

Returning to older, seminal writings that have shaped research and practice on formative assessment, Gary Natriello (1987) put forward a framework of key elements of the assessment process, with the aim to explore the authentic and complex impact of assessment. This framework noted *direction* (the use of assessment to communicate goals) and *motivation*, defined as “engaging those being evaluated in the tasks at hand” (Natriello, 1987, p. 157), among the different purposes of assessment, but did not emphasise the importance of students having an active role in formative assessment as explicitly as Crooks (1988). Nevertheless, both the purposes of assessment, as well as elements of the framework proposed by Natriello (1987), are informative to this thesis, particularly in regard to direction and motivation. Natriello's model of the assessment cycle included the setting of tasks, criteria and standards, through to appraising performance and providing feedback and outcomes. However, when viewed from a lens of triadic reciprocity, Natriello's framework is of a unidirectional nature (Reeve, 2013), in which the teachers take action to scaffold

learning through the various steps in assessment process, aimed to motivate students. From an SDA perspective, the assessment framework put forward by Natriello (1987) lacks agentic input from the students.

A third seminal paper, which drew on both Natriello (1987) and Crooks (1988) among many others, was the meta-analysis conducted by Black and Wiliam (1998a). Black and Wiliam (1998a) noted that innovations designed to strengthen frequent feedback to students about their learning had a substantial impact on learning. This paper articulated a more engaged student role by emphasising the importance of students becoming aware of gaps between desired goals and their current understanding and skill. Only then, Black and Wiliam argued, is it possible for the student to take action “to close that gap in order to attain the desired goal” (1998a, p. 20). Self-assessment is therefore “an essential component of formative assessment” (Black & Wiliam, 1998b, p. 143). This is the focal point in Earl’s work on assessment as learning (Earl, 2003, 2006; Earl & Katz, 2008). Earl has argued that assessment, when used as a process of developing and supporting metacognition for students, reinforces and extends the role of formative assessment by “emphasizing the role of the student, not only as a contributor to the assessment and learning process, but as the critical connector between them” (Earl, 2013, p. 28). While Earl has explored the role of students as reflective connectors primarily through cognitive engagement in which students make sense of new information; relate it to prior knowledge; and construct new learning, this thesis explores students’ roles with particular regard to direction in the form of goal-setting as an aspect of SRL (Zimmerman, 2008a), as well as in

regard to motivation (Reeve, 2012). The difference in focus between this thesis and Earl's notion of assessment as learning is apparent when applied to the SRL cycle steps of forethought, performance and self-reflection (Zimmerman, 2008a), which is explored in detail later in this chapter. The forethought stage is the key in the SDA approach because of the students' active role in analysing the task at hand, identifying goals and sub-goals as part of their strategic planning (Weinstein & Hume, 1998a, 1998b; Zimmerman, 2008a). By contrast, assessment as learning places its emphasis on the performance phase (Zimmerman, 2008a), which involves students' using task strategies and relating new knowledge to prior understandings, thus engaging metacognitively in the learning process (Earl, 2013; Earl & Katz, 2008).

### **Forethought as an influence on students' cognitive and affective domain**

Before explaining why forethought is a key concept in this thesis, it is timely to define the terms 'cognition' and 'affect'. Cognition is defined as "the action or faculty of knowing, including perceiving, conceiving" (Shorter Oxford English Dictionary, 2007, p. 446). The term also refers to the ability to reason, problem solve and "direct mental function and behavior in accord with internally represented intentions or goals" (Cohen, 2001). Others, such as Pina Tarricone (2011) define cognition as "a constant flow of information" (p. 1, with reference to Langford, 1986) and distinguish between flow of information (cognition) and the ability to process information (metacognition) as "second-order cognitions" (Tarricone, 2011, p. 1 with reference to Kuhn 2000, Weinert, 1987). In this thesis,

‘cognition’ means the action and ability to perceive and process information, and apply this mental function to direct intentions.

The second term ‘affect’ is a psychological term for emotion (Carver & Scheier, 2000), beliefs and attitudes (Tarrione, 2011). In respect of self-regulation, affect is part of the intrapersonal factors which influence our behaviour and the actions we take (Carver & Scheier, 2000). As such, it is closely connected to motivation; indeed, in Paul Pintrich’s conceptual framework of SRL, motivation and affect are combined as an area for regulation (Pintrich, 2004). The two are also combined in this thesis, and viewed as part of ‘self-motivation beliefs’, a term borrowed from Zimmerman (2000).

Returning to the importance of forethought as an influence on students’ cognition and self-motivation beliefs, this thesis posits that the choices students make during the forethought stage of directing their assessment influence how students sustain cognition, motivation and behaviour as they work towards meeting the success criteria. Social cognitive theory contends that intention, defined as “the determination to perform certain activities or to bring about a certain future state of affairs” (Bandura, 1986, p. 467), plays a prominent role in the self-regulation of behaviour. Simply put, our intentions are the engine that generates action, and these actions are determined by our goals. The process of working towards a goal starts with thinking before we act, which in self-regulation terms is described as the process by which learners personally activate and sustain cognitions, affects and behaviours that are aimed towards the attainment of a personal goal (Zimmerman & Schunk, 2011). Forethought is an important cognitive contributor to

SRL because the capacity to envisage future consequences, such as the successful completion of a task, serves to motivate the learner (Bandura, 1986). Forethought also comprises motivational beliefs, which are essential for the learner to take a proactive, self-regulating role in the learning process (Pintrich, 2004; Zimmerman & Schunk, 2011). In particular, learners are proactive by setting goals and engaging in the systemic process of working towards these goals. From a social cognitive perspective, self-regulation is a cyclical process of three phases, of which forethought is the first (Zimmerman, 2000). All three phases consist of sub-processes that are of a cognitive and affective nature. In line with social cognitive theory (Bandura, 1986), the reciprocal interaction between intrapersonal influences, such as cognition and affect, and behavioural aspects, which in the case of this thesis relates to actions taken to facilitate learning, is outlined below.

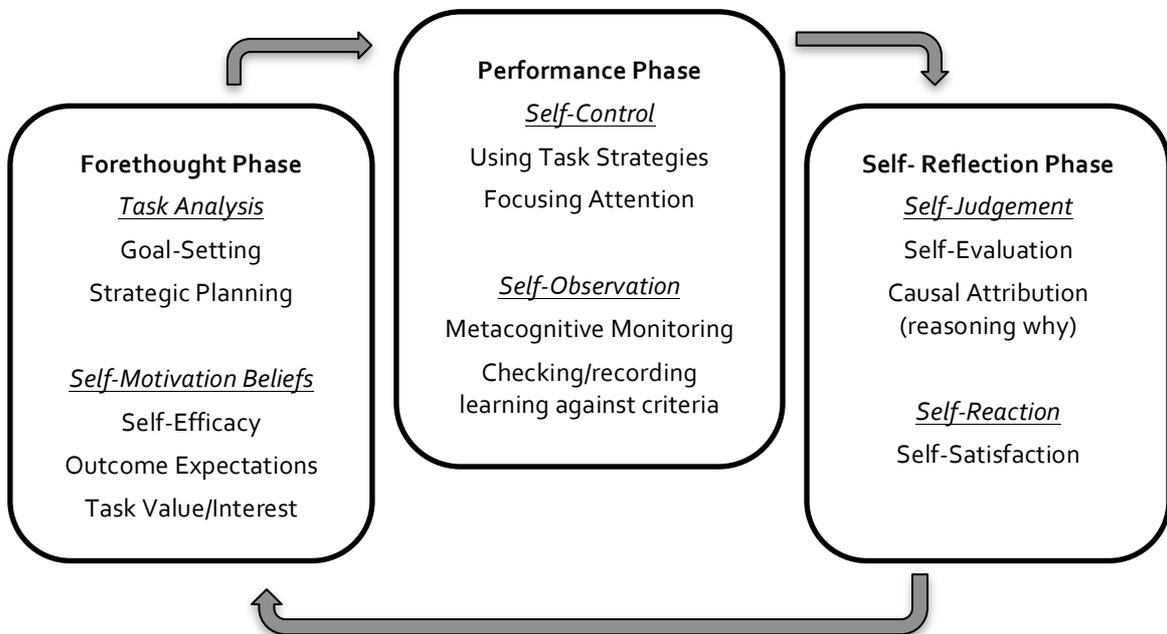


Figure 3.1: SDA learning cycle (adapted from Zimmerman, 2008a)

### *Setting goals*

Before examining literature on goal-setting, it is necessary to clarify that ‘goals’ in the SDA context refers to the learning outcomes articulated in the syllabus document. Students are scaffolded in identifying sub-goals and strategies that address the overall goal when they develop their plan as one of the first steps of the SDA process.

When people set goals, they activate two distinctive but closely associated categories of cognitive processes (Zimmerman, 2000, 2008b). These processes involve *analysing* the task at hand, and then developing a *strategic plan* of how to address the task (Weinstein & Hume, 1998a; Zimmerman, 2008a). This is well-established teaching practice. For example, goal-setting is a key aspect of the Understanding by Design concept (Wiggins & McTighe, 2005). The framework prompts teachers to use ‘backward design’ in planning for meaningful learning, which entails starting the planning process by identifying the learning outcomes as success criteria, and connecting these to the learning intentions from which the learning activities then are developed. Backward design is one of the most effective strategies for teachers to maximise students’ learning because it helps articulate teachers’ intentions and conceptions of what success of a lesson should look like, before taking action in the form of planning the activities (Hattie, 2012).

Recent research into goal-setting within primary school classrooms in New Zealand has revealed that students perceive goal-setting as beneficial to them in the classroom, and that they set multiple goals in their learning (Hastie, 2013). However, the majority of goals that students set on their own have been found to

reflect a performance orientation, meaning that they compare achievement between peers in a normative fashion. Sandra Hastie (2013) concluded that student motivation, attention and goal-setting strategies were crucial factors in determining the degree to which goal-setting behaviour occurred. Hastie's research presents a contrasting perspective to goal-setting compared to the one adopted in this thesis, as she explored goal-setting as the result of the contributing factors. Conversely, the present study starts with goal-setting and explores its results in regard to how learning is shaped.

Both the SRL literature and formative assessment literature acknowledge that goal-setting is a significant contributor to learning. However, when agency is considered, distinct differences appear. Pintrich (2004) argued in a conceptual paper that an SRL construct assumes that the learner is an active participant in the process by constructing their *own* meanings, goals, and strategies from the information available in both the external learning context they find themselves in, as well as from the internal learning context of the learner's own mind. This aligns with the learner's role as a critical connector in the assessment as learning process (Earl, 2013; Earl & Katz, 2008). Pintrich also posited that a general assumption in SRL is that "self-regulatory activities are *mediators between personal and contextual characteristics and actual achievement or performance*" (Pintrich, 2004, p. 388, emphasis in original). From an AfL perspective, this necessitates that the student takes an active role in the assessment process, for learning gains of actual performance to be realised. The importance of the learner 'buying in' to the process of learning as an active agent is certainly recognised in formative assessment literature as important (e.g. Carr, 2008; Crooks, 1988;

Leahy, et al., 2005; Swaffield, 2011), but too often, teachers do not sufficiently set the context for this to happen (Marshall & Drummond, 2006; Pedder & James, 2012).

The importance that students exercise agency and autonomy through AfL processes has several proponents. It is important to clarify that the term ‘autonomy’, a central tenet of self-determination theory (Deci & Ryan, 1985), concerns acting from one’s interest and integrated values. When autonomous, students’ goals and actions are motivated by their own sense of volition and thus is an experience of choice (Reeve, 2011; Reeve, et al., 2003). Sue Swaffield (2011) argued: “In assessment for learning pupils exercise agency and autonomy, while in formative assessment they can be passive recipients of teachers’ decisions and actions” (p. 443). However, Swaffield’s (2011) articulation of learner agency and autonomy in AfL describes a less active role by students than adopted in the SDA approach. Swaffield (2011) exemplifies it as teachers sharing criteria with the students, and thereby enabling the students to develop a clear sense of what they are aiming at in their learning, and what a quality response entails (Boud, 2015; Hattie, 2012; Sadler, 2002). In combination with self- and peer assessment, students’ clarity of aim helps to further their knowledge and develop metacognition (Swaffield, 2011).

This conception of learner agency in assessment assumes that the teacher presents criteria as part of a learning activity, and students engage with it to a greater or lesser degree and learn in proportion to their engagement (Reeve, 2012). An element of agency is present in Swaffield’s AfL approach, with respect to students’

contribution to the process by engaging with peer or self-assessment, but is it enough? Surely, that depends on what the self-assessment or peer assessment actually involves. A central tenet of this thesis is that student agency and autonomy requires reciprocal interaction among the individual learner, the task requirements, scaffolding and teacher support, and the learning activities that follow. Nevertheless, Swaffield's articulation of learner agency in assessment aligns with Earl and her colleagues' description of the student as a critical connector between the assessment and learning process (Earl, 2013; Earl & Katz, 2006, 2008). In this view, the purpose of assessment as learning is to foster students in developing self-regulation by integrating self-monitoring and self-correction or adjustment in a process that uses both *personal goals* and *external standards* as its reference points (Earl, 2013). The inclusion of personal goals is significant because they help regulate the student's cognition as they relate to the student's relevant background knowledge (Earl & Katz, 2008). When combined with external standards, the process of goal-setting helps articulate the direction, along the same principles as backward design (Wiggins & McTighe, 2005).

In regard to the SDA process, external standards in the form of learning outcomes articulated in the syllabus were used in the planning template, and then interpreted by the students and broken up to partial, personal goals. Swaffield (2011) adopted a slightly different standpoint, associating AfL with *learning how to learn* with specific, immediate learning intentions, while arguing that formative assessment concentrates on curriculum objectives. Conversely, the SDA approach fuses goals posed by external standards with personal, immediate goals set up by students. By breaking up the curriculum objectives into partial goals, in line with SRL

principles (Azevedo, Johnson, Chauncey, & Graesser, 2011; Bandura, 2001; Randi & Corno, 2000), the curriculum objectives, or *outcomes*, then serve as a checklist for students to monitor and evaluate their learning against, while they engage with the assessment as learning process. Thus, the process is clearly student-centred, yet the teacher has an active role in scaffolding the process; for example, by helping students interpret the curriculum outcomes and conferencing with students as they identify partial goals in their checklist of success criteria.

SRL in its purest form entails that learners formulate their own goals, but primary students may need guidance in doing this and teachers consequently need to make the goals clear to students so that they know the purpose of classroom learning tasks and activities (Timperley & Parr, 2009). Helen Timperley and Judy Parr (2009) analysed the relationship between teaching strategies associated with fostering SRL and formative assessment in years 4 to 8, in New Zealand. The study used lessons plans from fifteen teachers, with teacher questionnaires providing background information about the lesson, including the lesson aims, and a series of rating scales related to the teacher's confidence in teaching aspects of lessons central to developing SRL. This was complemented by observations from seventeen different classrooms and a sample of student interviews. Timperley and Parr (2009) found that while all the participating teachers *intended* to convey learning goals focused on the deeper features of writing, in many of the observed lessons these goals were not conveyed to the students. Consequently, it was difficult for the observer—let alone the students—to deduce from activities

during the lesson what was to be learned or what mastery of this learning might look like.

The SDA addresses this gap by involving the students in setting goals, aimed to not only convey, but also *prompt* students' active engagement with these goals, by determining appropriate criteria together with the teacher. Indeed, Timperley and Parr (2009, p. 58) acknowledged that it "could be argued that to become self-regulating, students should have the freedom to select their own goals, rather than meeting those pre-determined by their teachers". However, based on the lessons observed in their study, they concluded that until students have developed an in-depth understanding of what it means to be a writer for a particular purpose, learning is more likely to be progressed if teachers assist students to understand the necessary learning goals and mastery criteria so that they can monitor their learning progress. This argument is informative—but contrary—to this thesis's position in respect of students' ability to address goals, as manifested in their writing samples, which is discussed in chapters 5 and 6. Rather than adopting the view that learning is progressed by teachers setting the goals and scaffolding students to develop an understanding of what the goals entail, this thesis posits that students' development of an understanding of what the goals entail is scaffolded by the student and teacher working *together* in identifying strategies and sub-goals aimed at the overall goal.

### *Scaffolded help-seeking*

Linking from the intrapersonal domain of the social cognitive triad (Bandura, 1986) adopted in this thesis, the focus now shifts to explore help-seeking. Help-

seeking, when viewed from a perspective of triadic reciprocity, relates both to action and to social influences. It is an aspect of SRL which Timperley and Parr (2009) did not address in their study, but which may have been enhanced if students had been given the freedom to select their own goals.

Help-seeking has been widely acknowledged as an important strategy for learning (R. Butler, 2006; Karabenick, 2011; Karabenick & Berger, 2013; Karabenick & Newman, 2006; R. Newman, 1990; Ryan & Shin, 2011), particularly when help is sought as part of the student engaging in problem-solving as they strive towards mastery of the learning goals (R. Butler, 2006; Karabenick, 2011). It requires agency from the student because learners seek help if they perceive that an obstacle exists that they need to overcome, and therefore determine that help is needed before making a conscious decision to seek help (Karabenick, 2011). Furthermore, this process involves the student in clarifying *why* they are seeking help, and reflecting on *where/whom* to seek help from (Hattie, 2009; Karabenick, 2011). Therefore, help-seeking is directly connected to the self-regulatory processes of task analysis and strategic planning (Karabenick & Berger, 2013), which are part of the self-regulation cycle (Zimmerman, 2000). As such, it is a metacognitive exercise that is prompted when students are challenged, and is an example of the complex reciprocity of cognitive, behavioural and social factors that influence learning. Ruth Butler (2006) has argued that teachers should provide opportunities for students to experience difficulties as a ‘challenges springboard’ for learning. She, along with David Boud (2015), has posited that teachers need to scaffold such challenging tasks carefully and provide

constructive help when students ask for assistance. Also, feedback can be provided when it is not solicited (Butler, 2006). In this regard, it is important to note that research has found most children overestimate their academic capabilities (Pajares, 1997), so providing feedback and help to students, even when they are not seeking it, is vital. Nevertheless, to scaffold help-seeking opportunities for students arguably goes beyond the key AfL notion of a teacher *providing* feedback which is timely and focused (Brookhart, 2008, 2012; Hattie & Timperley, 2007; Shute, 2008; Wiggins, 2012)—it scaffolds feedback *sought* by an agent of learning! Thus, this thesis aligns itself with recent research that challenges the assumption of feedback practice by positioning the student as a seeker and user of feedback (Boud, 2015; Boud, Lawson & Thompson, 2013; Boud & Molloy, 2012; Carless, 2013; Molloy & Boud, 2013). To this end, help-seeking is an important learning action that informs the discussion on findings in chapters 6 and 7.

### **Self-efficacy and competence perception**

A central tenet of SRL theory is that learning requires supportive motivational beliefs for the learner to activate and sustain cognitions, affects and behaviours oriented towards the learning goal (Zimmerman & Schunk, 2011). Key in this process is the person's own perception of their capability to meet the task demands because it directly influences their level of motivation, what they do with the knowledge and skills they have, and how they persevere with the task at hand (Bandura, 1997; Schunk & Pajares, 2005). Such beliefs are termed *perceived* self-efficacy, which is defined as the “beliefs in one's capabilities to organize and

execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3). There is wide agreement of the correlation between students’ beliefs in their ability to solve tasks; their motivation to put in effort and persist with tasks that challenge their understanding; and their level of success as learners (Bandura, 1997; Cellar, Stuhlmacher, Young, Fisher, Adair, Haynes, Twichell, Arnold, Royer, Denning & Riestler, 2011; Dweck & Master, 2008; Eccles, Wigfield, & Schiefele, 1998; Pintrich, 2003; Pintrich & Schunk, 2002; Schunk & Pajares, 2005; Whannell, Whannell, & Allen, 2012; Zimmerman, 2011). This concept is important in respect of this thesis, since students have such an active role in shaping the task of learning in the SDA approach.

Students’ perception of their capabilities, or perception of competence, is closely related to self-efficacy and a number of factors such as a person’s perception of themselves formed through experiences (self-concept), and the notion of perceived control (Schunk & Pajares, 2005). In particular, explicit connections among the importance of goal-setting, skill development and self-efficacy have been found (Schunk & Pajares, 2005). The student has a central role in this, not only in respect of perceptions, but also in terms of agency, as students who set proximal goals clearly can see their progress through evidence of their growing expertise (Bandura & Schunk, 1981; Locke & Latham, 2002). Furthermore, research suggests that students who set their own goals experience increases in confidence, competence and commitment to attain those goals (Schunk, 1995). The findings of Dale Schunk’s (1985) study are significant to this thesis because they inform

the discussion of the 'less able' students' achievement in the SDA project, which is central to the discussion in Chapter 7.

Schunk (1985) tested the hypothesis that participation in goal-setting enhances self-efficacy and skills. The sample included thirty sixth-grade students in North America who had been identified as performing below their measured abilities. The students did not possess intellectual deficits (WISC-R intelligence scores ranged from 85 to 110), but despite much instruction in previous years of schooling, the students had still not mastered subtraction operations. Thus, all students in the sample entered the experiment with low skills and low self-efficacy. Pre-tests were conducted in which both students' self-efficacy and subtraction skills were measured before students were randomly assigned to one of three treatment groups (*self-set goals*; *assigned goals*; and *no goals*) and received training sessions for five consecutive school days. A post-test using similar self-efficacy scales and a skill test was administered the day following the last lesson, which was conducted by the same tester who had conducted the student's pre-test. Analysis of covariance revealed that students who had set their own goals judged self-efficacy significantly higher than the students who had been assigned goals and students with no goals. The students in the self-set goals also demonstrated statistically significantly higher subtraction skills than students in the other two groups, in which no statistically significant difference was found. Schunk (1985) therefore deduced that allowing the students to establish their own goals produced high expectations for goal attainment, and that students' initial sense of efficacy for performing well was probably reinforced, as they could

observe their progress and attainment of the goals. Schunk (1985) reasoned that the strong sense of self-efficacy in turn led to skilful test performance.

Schunk's study (1985) had clear teaching implications, suggesting that giving students the opportunity to set goals in their learning may help promote more active task engagement. However, it is worth noting that the goals in the study from 1985 primarily used quantitative measures as students decided how many subtraction exercises they would aim to complete in the lesson. In respect of this thesis, with its focus on writing, apart from the word length of a writing sample (which students may identify as one of their goals), the goals are of a more nuanced nature and pertain to a multitude of aspects which impact on the quality of a written piece. A student's perception of their competence in the SDA context consequently requires that students identify both technical aspects as well as creative aspects of their writing abilities. This corresponds with what Mary James and Andrew Pollard (2011b) articulated as one of the key principles of effective pedagogy, stating:

Pedagogy should engage learners with the big ideas, key processes, modes of discourse, ways of thinking and practicing, attitudes and relationships, which are the most valued learning processes and outcomes in particular contexts. They need to understand what constitutes quality, standards and expertise in different settings.

(James & Pollard, 2011b, p. 284)

Rather than setting quantitative goals, like the students did in Schunk's (1985) experiment, the students in the present study articulated goals relating to 'big

ideas', such as engaging with a particular audience, and identified key strategies they would employ in the writing process as part of their goals. In their self-evaluation after the writing project was completed, the students thus reflected on how they had developed competence and expertise in a number of aspects of their writing.

### **Learning actions to foster students' agency in the assessment process**

As previously explained, this literature review has deliberately been set out to correspond with the triadic components of social cognitive theory (Bandura, 1986). The triadic component of *behaviour*, in the SDA context, relates to actions taken by teachers and students to facilitate learning, and is informed by formative assessment and SRL literature. In the SDA process, a key teacher action to support students' learning is *scaffolding* (Daniels, 2001, 2007; Newman, Griffin, & Cole, 1989) which is explored first, before the review shifts to a more explicit focus on the students' role, using the systemic approach to SRL put forward by Clare Weinstein and her colleagues (Weinstein & Acee, 2013; Weinstein, Husman, & Dierking, 2000). Weinstein's conceptualisation of self-regulation interventions and model of strategic learning has been applied to high school and college settings. Yet, these ideas, along with the seminal conceptualisation of SRL by Zimmerman (2000), are highly applicable to this thesis, despite its focus on primary students.

### *Scaffolding*

The term ‘scaffolding’ is used here in the constructivist sense, referring to pedagogical support provided to simplify the learner’s role, rather than the task (Daniels, 2007). To promote autonomy and student-direction, teachers need to help learners develop strategies to plan for, monitor, assess and set goals for future learning (Broadfoot, 2007; Boud, Lawson & Thompson, 2013; Hill, Cowie, Gilmore, & Smith, 2010; James & Pollard, 2011a; Martin, 2010).

James and Pollard (2011b) argued in their summary of ‘evidence-informed’ principles for effective pedagogy generated in the ten-year Teaching and Learning Research Programme (TLRP) across the UK that the responsibility generally is assumed to lie primarily with the classroom teacher, but that alternatives are possible. In particular, James and Pollard noted that peers and multimedia resources can provide effective scaffolding, as evidenced in a TLRP project between 2004 and 2006, which focused on training speech and language therapists in developing diagnostic skills through vicarious learning (Cox, Lee, Varley, & Morris). Vicarious learning is the notion that people can and will learn by being given access to the learning experiences of others, a theoretical concept which Albert Bandura has explored in depth (Bandura, 1977, 1986). However, in the context of the SDA approach, the focus is not on vicarious learning. Yet, the observation by James and Pollard (2011b) arguably holds similarities to the SDA approach, given that the SDA template is a central part of the scaffolding. In fact, the template which students use to plan and monitor their progress in the assessment not only scaffolds students in the process of directing their assessment

and learning process, but also scaffolds teachers in helping students develop autonomy, direction and SRL habits.

The teachers' role in scaffolding students to develop SRL skills was explored in an action research study conducted by Lyn Bird (2009). Specifically, the study focused on how teachers integrated SRL strategies as part of their classroom practice; how SRL strategies could be introduced during the learning cycle; and how different groups of students developed these learning strategies. The study took place in two schools in Central Otago, in New Zealand, and involved eight teachers working with primary students, which in the context of the study meant classes ranging from students aged 5 in Year 1 to 12-year-olds in Year 8. With an explicit focus on teachers' reflection of how to promote SRL as part of their classroom practice, Bird's study used group discussions in which the participating teachers shared their insights and developed new understandings of how to translate theoretical concepts of self-regulation and into classroom practice. Goal-setting, for example, involved students choosing a goal from a class-created list before students gradually began independently setting specific, measurable goals.

While Bird's study (2009) painted a rich picture of teachers' accounts from their work with making SRL 'happen in the classroom', to paraphrase an expression (International Baccalaureate Organization, 2007), it did not include the students' commentary, other than as retold in the teacher accounts. Nor, as a qualitative action research study, did it examine to what degree the strategies may have impacted on students' learning in a measureable sense. This is not a criticism—it was never Bird's intention to do so—but it highlights a methodological difference

in comparison to the mixed-methods approach adopted in this thesis. Nevertheless, the study by Bird (2009) clearly suggests that students in all the participating year levels became more confident as learners in regard to working towards goals. As noted earlier in this chapter, SRL studies in primary settings have been few, but Bird's findings (2009), along with previous work by Nancy Perry (1998), indicate that with the support of scaffolding, young students are able to engage metacognitively in the learning process.

#### *Analysing tasks*

Self-regulatory processes can be divided into two major categories: task analysis processes and self-motivation beliefs (Zimmerman & Kitsantas, 2005). Task analysis involves analysing the different components of a task and breaking them into component parts which then constitute proximal learning goals (Carver & Scheier, 2000). In this process of analysing the task, students' use active processing of information is central and involves the use of both cognitive strategies to process the task information, as well as metacognitive strategies to interpret and adapt the specific learning demands of the task to the learning situation (Leutner, Leopold, & den Elzen-Rump, 2007). Detlev Leutner et al. (2007) argued that identifying and selecting important information as part of the task analysis is a crucial first step towards deeper text processing, and needs to be taught explicitly. This argument was derived from their study into how explicit training in cognitive strategies and their application towards a goal impacts on performance. Forty-five university students participated in the training experiment,

which involved training students in text-highlighting as a cognitive strategy, with additional training in how to monitor and regulate their use of this strategy.

Task analysis in respect of the SDA context was not of the same rigorously controlled experimental character as the aforementioned study. Rather, the task analysis involved students interpreting the relevant learning outcomes in writing and subsequently identifying learning goals derived from the outcome. While this step did not follow a formal training program, the teachers supported the students as they used the SDA planning template to document their task analysis. The task analysis in the present study used conferences between the student and teacher. The STA students were guided and could ‘sound out’ their interpretation of what goals the outcome may entail.

Questions have an important role to play with respect to task analysis, as they help both clarify and analyse components of the task. For example, Paul Foos, Joseph Mora and Sharon Tkacz (1994) conducted two experiments with 260 randomly assigned college students in North America, in which the experimental group generated their own study materials such as outlines, questions, and questions with answers, in preparation for a test consisting of multiple-choice and fill-in-the-blank questions two days after receiving the to-be-studied text. The study found that the students who generated their own study questions or questions with answers performed at a higher level compared to students who were simply told to study a text for a forthcoming test, or who were instructed to use specific study materials or techniques.

This reiterates the importance of students as agents in their learning, and as active directors of the assessment process. Earl and Katz characterise assessment as learning as “the kind of assessment that recognizes students as active, engaged and critical assessors who make sense of information, relate it to prior knowledge and use it for new learning” (Earl & Katz, 2008, p. 91). This view is the central argument of this thesis. However, a more detailed articulation of the components that enable the student to take on this role follows next, with particular regard to task analysis.

In the systematic approach Weinstein is a proponent of, task analysis involves the student reflecting on their personal resources, which includes the learner’s *skill* and *will* and self-regulation (Weinstein, 1994). The skill and will are multi-faceted constructs in Weinstein’s model of strategic learning, but the idea of the student reflecting on the tasks and their personal resources is very similar to the concept of the learner as a critical connector between assessment and learning (Earl, 2013; Earl & Katz, 2006, 2008).

The first of the key elements of the learner’s skill set is their knowledge of themselves as a learner; for example, being aware of their strengths and weaknesses; interests and talents; and study habits and practices (Weinstein & Acee, 2013). In this regard, it is important that teachers explicitly help students develop a growth mindset as learners (Martin, 2010), for assessment as learning to be a challenging and fruitful process for the student.

A second category of the student's skill components is their *knowledge of academic tasks* (Weinstein & Acee, 2013; Weinstein, et al., 2000), which includes the understanding of what is required to successfully complete the task at hand. This element of the learner's skill set relates to their understanding of what steps need to be taken to complete the task and how much time this will take (Weinstein & Acee, 2013; Winne, 2011). In the context of SDA, the planning template scaffolds development of this skill by involving students in identifying strategies and sub-goals for their learning in relation to the type of text they have chosen.

The third element of their learner's skills is their *knowledge about strategies and skills* for gaining, integrating, thinking about and applying new learning (Weinstein & Acee, 2013). Learning strategies can take many forms and range from simple paraphrasing to complex content analysis (Pintrich, 1999). They span the entire learning cycle, from concrete steps such as students writing a list when planning, asking a peer to proofread, to students exercising control of their emotion through mental imagery (Randi & Corno, 2000). As Weinstein and Acee (2013) point out: "The common factor underlying each of these forms is the active involvement of the student" (p. 206). In the SDA context, the students' knowledge about strategies is a crucial component of the forethought step, in which they write a checklist to monitor their learning as part of them actively directing their assessment as learning process. Indeed, one of the key aims of the SDA approach is for students to develop this very element of their skills as active agents of their own learning.

The fourth element of the strategic learning model is *knowledge about the content*, which refers to the learner's prior knowledge about the subject (Weinstein & Acee, 2013) and contributes to the learner's ability to analyse the task. By integrating new information with prior knowledge, learners increase meaning and remember new knowledge better (Acuña, García Rodicio, & Sánchez, 2011). In the SDA context, the use of prior knowledge to increase meaning contributes to the process when the student determines the success criteria by, for example, determining important features of the type of text they plan to write. This, in turn, contributes to the summative aspect, as *text type* is one of the writing criteria used to mark the student's final draft of writing sample (MCEETYA, 2008b).

The last of the skill components is *knowledge about the learning context* (Weinstein & Acee, 2013), which can be simply described as knowing why the learning matters and what it may lead to, and which connects to the notion of outcome expectations (Bandura, 1997) discussed later in this chapter. Context knowledge relates to the learner's personal, social and academic goals (Acee & Weinstein, 2010). The goals need to be valued by the student, to motivate the learner to take action.

### *Monitoring learning*

When students monitor their learning they engage in a cognitive activity which involves comparing their behaviour to the cognitive and environmental conditions which the task at hand demands, before taking action to control and regulate their learning (Bandura, 2001; Pintrich & Zusho, 2002; Wigfield, et al., 2011). By monitoring their learning, students evaluate how well the implementation of the

learning strategies they previously planned is working, and determine if the strategies need to be altered (Weinstein & Acee, 2013). A key behavioural indicator in regard to students' monitoring of their learning is their capacity to persist in a challenging learning situation (Wigfield, et al., 2011). In regard to the SDA approach, this is an important consideration for teachers, in relation to scaffolding the learning strategies the student is implementing. While the aim of the SDA is to help students develop independence and autonomy as learners, the teacher needs to support them in monitoring their learning by helping the student evaluate the effectiveness of their chosen strategies. If the strategies are sound and the goal is challenging but achievable, then encouraging the student to persist is important, and reaffirms that the student is on track. Feedback thus is a central part of helping students to monitor their learning.

#### *Feedback to enhance learning*

It is not only SRL scholars who note the importance of feedback; it is also a central component of formative assessment practice. Formative assessment is by its nature forward-looking because it is used to inform the next steps of teaching and learning (Swaffield, 2008). As such, feedback to the individual student plays a key role in influencing the behaviours and practice that follow. In fact, Sadler (1989) argued that assessment is not formative in its nature unless some modification of practice occurs. For feedback to fulfil its purpose of informing practice, it needs to be timely so that changes can be enacted as part of the student's learning (Brookhart, 2008, 2012; Carless, 2006, 2007a, 2007b, 2014; Wiggins, 2012).

Feedback also needs to be specific and clearly connected to the learning criteria. For example, Avraham Kluger and Angelo DeNisi (1996) found that different types of feedback have a vastly different impact on a person's performance in their seminal meta-analysis of feedback interventions. Similarly, the extensive review by Valerie Shute (2008) articulated detailed understandings in respect of formative assessment by synthesising research findings into four highly useful tables of thirty-one prescriptions of what teachers should and should not do to enhance formative learning.

Several of these are included in this section, but one of Shute's prescriptions is particularly noteworthy with respect to the SDA. Shute (2008) surmised that teachers should "[k]eep feedback as simple as possible but no simpler (based on learner needs and instructional constraints)" (p.177). Simple feedback, such as a singular cue to verify that the learner is on the right track, or a singular hint, has been found to be more effective in promoting learning than complex feedback with multiple cues (Kulhavy, White, Topp, Chan, & Adams, 1985, cited in Shute, 2008). This finding is a pertinent connection to research on help-seeking, which is a key characteristic of students who are effective in self-regulating their learning (Butler, 2006; Karabenick & Berger, 2013; Ryan & Pintrich, 1998; Ryan & Shin, 2011).

In respect of the SDA approach, this form of simple feedback is facilitated in conferences between the teacher and student during the process of students' planning and monitoring their assessment. Wiliam (2012) phrased the idea of simple feedback to prompt further learning when stating that effective feedback

should require “more work from the recipient than from the giver” (p. 34). For example, rather than the teacher identifying all the errors a student has made, challenging a student to find the three errors they have made and correcting them is far more effective in engaging the student as an active agent in the learning process.

Hattie and Timperley (2007) articulated differing focal points in feedback by using the terms ‘feed up’ to articulate goals, ‘feed back’ to provide information about the student’s progress in relation to the goal or the student’s past performance, and ‘feed forward’ to highlight actions which make further learning possible.

These perspectives are paralleled in the SDA approach, where the students ‘feed up’ (Hattie & Timperley, 2007) when they use the planning template to document a detailed plan for how they will direct their assessment to meet the curriculum learning goals. While the students are in the process of drafting their writing, they refer back to the planning template that frames the ‘feed back’ (Hattie & Timperley, 2007). In the SDA approach, teachers support students assessing how they are going in relation to the goals, through short individual conferences with students. These conferences between the individual student and the teacher include ‘feed forward’ (Hattie & Timperley, 2007), as students actively develop their work as part of the assessment process.

Susan Brookhart (2012) emphasised that for feedback to be effective, students need to know what they are trying to learn, so proximal goals in the form of

learning targets are essential. Learning targets are defined by Brookhart as “student-friendly descriptions—through words, pictures, actions, or some combination of these—of what [teachers] intend students to learn or accomplish in a lesson” (Brookhart, 2012, p. 26). In this definition the learning target is a clear intention instigated by the teacher. Yet, Brookhart also argued that effective learning targets give students the opportunity to “*show themselves* what the learning target [is]” (p. 26, emphasis in original), and suggested that using ‘I-can’ statements helps students clarify the target, which in turn is helpful as they try to produce evidence of their learning.

However, for effective learning to occur, teachers need to be mindful of using tokenistic approaches such as stating a learning intention/learning target on the board which students note in their book—whether it be phrased as an ‘I statement’ in student-friendly language or not (Marshall & Drummond, 2006). AfL requires that teachers clarify and share the learning intentions and success criteria and that students understand them (Leahy, et al., 2005; Wiliam, 2011). In this respect, self-regulation theory understood from a social cognitive perspective, with its focus on the learner’s cognitive strategies, and the critical and active role the student plays in applying strategies for learning are highly illuminating and provide an evidence-rich base for teaching practice.

In a meta-analysis of factors that influence student achievement, the highest effect sizes have been found to involve students receiving task-related feedback with information such as cues to suggest how to progress (Hattie, 2012). Task-level feedback typically provides specific and timely information to the student about a

particular response in relation to the task or problem at hand (Hattie & Timperley, 2007; Shute, 2008). To this end, it provides connections among the individual student in respect of intrapersonal factors such as cognition, motivation and confidence; the learning criteria; and appropriate actions to address the task at hand.

While the aim of formative feedback is to guide the student in modifying their behaviour to improve their learning (Shute, 2008), research has found that student perceptions of feedback often differs from teacher perceptions of feedback (Carless, 2006; Havnes, et al., 2012). Consequently, a common understanding needs to be developed by students and teachers within the given learning context. Several researchers note that verbal feedback is an essential part of AfL (Brown, Harris, & Harnett, 2012; Cowie & Bell, 1999), yet integrating this explicitly as part of the AfL process is underdeveloped. By using a structured SDA as learning approach to scaffold students to seek help within the learning process, a task-focused feedback approach is inevitable. Furthermore, by its very definition, SDA seeks to elaborate the role as an agentive learner, which several researchers acknowledge needs further elaboration (Havnes, et al., 2012; Reeve, 2011; Reeve & Tseng, 2011).

This thesis seeks to understand the dynamic factors which shape learning when students are placed in a central position of the assessment as learning process. Therefore, the discussion and review of literature to inform the thesis, now shifts from learning actions, and returns to intrapersonal factors as literature on motivation is reviewed.

## **THREAD 2: USING ASSESSMENT TO MOTIVATE LEARNING**

This chapter sections starts by examining how intrapersonal factors such as cognition, affect and values influence a student's motivation in relation to the SDA context. The review then turns to examine the behavioural aspects in relation to learning activities students engage in, to prompt motivation in the assessment process. Motivation has been described as the underlying source of energy, purpose and durability for engagement, which can be viewed as a student's outward manifestation of their motivation (Skinner, Kindermann, Connell, & Wellborn, 2009).

### *Building blocks of motivation*

Motivation in its lexical sense is derived from the Latin term *motivus*, which translates as “moving cause” or “to move”. The study of motivation therefore is the study of action, instigated by a person's beliefs, values and goals, as suggested by Jacquelyne Eccles and Allan Wigfield (2002). Reeve (2009) defined motivation as a force that energises and directs behaviour, which is a useful definition in the context of this thesis.

Motivation is essential in the development of competence and expertise in a field. For example, Robert Sternberg (2005) suggested that motivation is central in the process of how individuals develop expertise within a given domain. He argued that the expertise is achieved through purposeful engagement in which five elements interact: knowledge, learning, creative and critical thinking, and metacognition, in the form of planning and evaluation. Motivation drives all these

elements because without motivation, all the other elements remain inert (Stenberg, 2005).

This thesis focuses on three types of theories of motivation. First, theories that conceptualise motivation in relation to individuals' beliefs about their competence to complete tasks, and ability to control task outcomes, are explored. In particular, Bandura's (1997) self-efficacy theory informs the study in this regard. Second, theories of intrinsic motivation are examined, with particular focus on self-determination theory (Deci & Ryan, 1985, 2002; Deci, Vallerand, Pelletier, & Ryan, 1991; Reeve, 2012; Vansteenkiste, Niemiec, & Soenens, 2010) and flow theory (Csikszentmihalyi, Abuhamdeh, & Nakamura, 2005). Goal theories are also part of intrinsic motivation theories, but as they have been explored in the previous thread of this chapter, their inclusion here is brief.

#### *Self-efficacy as a motivating factor*

An individual's perception of their ability to control and impact on their environment is a central tenet of Bandura's theory of self-efficacy (Bandura, 1997). Self-efficacy is in turn one of the constituents of the intrapersonal influences which shape human functioning (Bandura, 2012). A person's level of self-efficacy relates to their expectancy beliefs in regard to the success they believe themselves capable of accomplishing, which in turn affects their behaviour (Eccles & Wigfield, 2002). Bandura (1997) distinguished between a person's perception that certain behaviours will lead to certain outcomes (outcome expectations) and a person's belief in their ability to perform these behaviours (efficacy expectations). For example, a person may firmly believe that taking

exercise and not eating chocolates will result in gaining a more trim figure, an outcome expectation. At the same time, the person may doubt their ability to stop the chocolate-eating and start the exercising, thus holding a low-efficacy expectation. People guide their lives by their beliefs of personal efficacy and that influences the courses of action they choose to pursue, the amount of effort they invest in their endeavours, how long they persevere in the face of obstacles, their resilience when facing difficulties, and whether their thought patterns are self-hindering or self-aiding (Bandura, 1997, 2012). In short, self-efficacy has a significant impact on a person's motivation. This is a fundamental understanding, which underpins the discussion on this thesis's findings in later chapters.

Research evidence has been very supportive of self-efficacy theory. For example, findings have shown that a higher sense of self-efficacy can have a positive effect on learning, achievement, self-regulation and motivational outcomes such as individuals' choices of activities, effort, persistence and interests (Bandura, 1997; Klenowski, 1995a; Schunk & Pajares, 2009; Usher & Pajares, 2008).

Self-efficacy is a key intrapersonal variable that influences a student's academic motivation and engagement (Schunk & Mullen, 2012), yet high self-efficacy does not automatically translate into strong motivation and deep engagement—social factors are crucial. For example, Pintrich and Schunk (2002) found that competence, beliefs and motivation decline as students advance in school. Factors such as greater competition, norm-referenced grading and less teacher attention to individual student progress, as well as stress associated with transitioning into middle and high school, have been attributed to the decline in students'

motivation and belief in their own competencies (Pintrich & Schunk, 2002; Schunk & Pajares, 2005). Students' involvement and participation in school partially depends on how much the school environment contributes to their perception of autonomy and sense of belonging, which in turn influence students' self-efficacy and academic achievement (Schunk & Pajares, 2005, citing Hymel, Comfort, Schonert-Reichl & McDougall, 1996).

However, even if a person feels confident that they can perform a task, they may not have compelling reasons to do it (Eccles & Wigfield, 2002). While theories dealing with people's perceptions of their competence, and their beliefs in their ability to control factors, certainly are well established, these theories do not systematically explain why a person may or may not engage in a task. Ulrich Schiefele and Mihaly Csikszentmihalyi (1994) made the astute point that cognitive variables, despite their significant importance, are not the only criteria for the usefulness and worth of a motivational concept.

### *Self-determination theory*

Another perspective of what motivates people is offered in self-determination theory, which is a theoretical construct that comprises five interrelated mini-theories concerned with human motivation, emotion and personality. Self-determination theory has advanced in a research-driven, cumulative manner by Edward Deci and Richard Ryan and colleagues since the 1970s. It integrates intrinsic and extrinsic motivation perspectives by making the assumptions that people are motivated to maintain an optimal level of stimulation, and that people have a basic need for competence and personal causation. The theory focuses on

the dialectic between the active, growth-oriented human and the social contexts that either support or thwart a person's attempts to master and integrate their experiences into a coherent sense of self (Deci & Ryan, 2002; Reeve, et al., 2004).

Self-determination theory takes the classic Aristotelian view that people have innate growth tendencies to exercise and elaborate their interests, and they therefore seek to stretch their capacity and express their talents as part of realising their human potentials (Deci & Ryan, 2002). As such, the theory posits that people are born with curiosity and intrinsic motivation, and that high-quality engagement is a psychological need (Reeve, 2012). One of the basic psychological needs within self-determination theory is particularly important with respect to this thesis: *autonomy*. Autonomy is defined as the perceived origin or source of one's own behaviour (deCharms, 1968; Ryan & Connell, 1989; cited in Deci & Ryan, 2002). Autonomy concerns an individual acting from their interest and integrated values so that they experience their behaviour as an expression of the self (Deci & Ryan, 2002). In fact, even when an individual's actions are influenced by outside sources, the person acts autonomously if their interest and integrated values initiate the action.

In respect of literature on AfL, autonomy is a central but somewhat ill-defined feature. For example, Paul Black, Robert McCormick, Mary James and David Pedder (2006) argue that the term 'learning autonomy' is a central characteristic of practices that improve learning and 'Learning How To Learn'. Rather than referring to the term as a single unitary concept, they argue that it "represents a variety of overlapping and effective learning practices. In particular, it implies

that the learner can not only give meaning to the learning, but that she can also create new learning tools” (Black, et al., 2006, p. 129). Examples of such practices include learning tasks which involve explicit application of problem-solving skills in which students’ collaborate through discussion and have received scaffolding on how to offer supported opinions (Mercer, 2000, cited in Black, et al., 2006). Such approaches clearly aim to help students initiate action, but does it mean that these actions stem from the students’ interest and values? By the same token, a learning-how-to-learn approach clearly implies that it is an active, ongoing process of learning, not that it is an ability or skill that students already have learnt.

Self-determination theory integrates extrinsic motivation factors by positing that there are clear and specifiable social-contextual factors that support or undermine people’s innate tendency to develop a more elaborated sense of self (Deci & Ryan, 2002; Reeve, 2012). As Reeve (2012) explains, this aspect of self-determination theory answers the question *why* people engage in activities they do not perceive as interesting.

The third mini-theory within self-determination theory focuses on goals and explains *what* people strive to attain. The concept distinguishes from intrinsic goals and extrinsic goals, based on research findings that differing goal content affects motivation and wellbeing in different ways (Vansteenkiste, Lens, & Deci, 2006). Research of goal content theory, which is one of the mini-theories, has found that the pursuit and attainment of intrinsic goals fosters deeper learning, better performance, more enduring persistence and greater psychological

wellbeing, compared to the pursuit of extrinsic goals (Vansteenkiste, et al., 2006; Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004; Vansteenkiste, Simons, Lens, Soenens, 2004).

Cognitive evaluation theory (Deci, 1975, cited in Vansteenkiste, et al., 2010) is fundamental to self-determination theory, as it was the first of the five mini-theories. It was developed from research on the dynamic interplay between external events (e.g. rewards, choice) and people's task interest or enjoyment (i.e., intrinsic motivation) (Vansteenkiste, et al., 2010). Enjoyment is, in this context, a by-product of full immersion in an activity. As Vansteenkiste et. al., (2010) emphasised, those who are intrinsically motivated are "enjoyment- seekers".

The fifth of the mini-theories is centred on personality and identifies individual differences in how students motivate and engage themselves (Reeve, 2012). For example, people with a strong *autonomy orientation* are inclined to act in accord with their own emerging interests and tend to interpret external events as informational (Vansteenkiste, et al., 2010). Consequently, such people usually regulate their behaviour autonomously. People with a high *control orientation* by contrast, tend to act in accordance with external demands and therefore interpret external events as pressuring (Vansteenkiste, et al., 2010). Finally, people who rate high in regard to impersonal orientation tend to view life experiences as beyond their personal control, so are therefore prone to feelings of helplessness, ineffectiveness, and passivity (Vansteenkiste, et al., 2010).

The present thesis is not grounded in self-determination theory per se, but because self-determination theory underpins the concept of agentic engagement (Reeve & Tseng, 2011), which is highly significant for this thesis, it informs this study. Self-determination theory and its notion of people being innately curious, logically requires something to be curious about. This, in turn, leads us to the next subject: interest.

### *Interest as a concept*

As noted by Ann Renninger and Suzanne Hidi (2011) in their overview of literature published between 2001 and 2011, five characteristics of interest as a motivational variable, have emerged from the literature. First, interest is content- or object-specific (Renninger & Hidi, 2011). Second, it involves a specific link between a person and the environment, which is supported through interaction (Renninger & Hidi, 2011). Third, interest consists of both cognitive and affective components (Renninger & Hidi, 2011). Fourth, people are not always conscious of their interest while they are engaged, or even that their interest has been sparked (Renninger & Hidi, 2011). Fifth, there is a neurological dimension of interest, as brain activations differ when a student is or is not engaged with interest (Hidi & Renninger, 2006; Renninger & Hidi, 2011).

Interest is generated gradually and starts with a situation that triggers a person's interest. This situational interest may only last momentarily (Hidi & Renninger, 2006; Patall, 2013; Renninger & Hidi, 2011). The situational captivating of a person's interest may also allow for interest to be developed into a maintained

situational interest, which Hidi and Renninger (2006) conceptualised as the second of four sequential phases of interest development.

This phase is of particular importance from a teaching perspective because research suggests that learning environments that provide students with meaningful and personally significant activities can contribute to the maintenance of situational interest (Hidi & Renninger, 2006). Such activities may include projects, group work or one-on-one tutoring (Hidi & Renninger, 2006). Joe Nichols (2006) concluded from a project, which sought to enhance students' motivation through empowerment and relationships within classrooms, that although teachers can have a direct impact on student motivation through the way in which they construct their classroom environment and culture, students' authentic motivation is defined by the premise that motivation is perhaps internal to the self. This clearly correlates with the notion of autonomy and intrinsic interests as suggested in self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2002). It also reiterates this thesis's central argument that students need to have an active role in shaping learning.

The third phase of interest development emerges once interest is maintained, and repeated engagement is either initiated by the person themselves or encouraged by the environment, which leads to an emerging and then well-developed individual interest (Hidi & Renninger, 2006; Renninger & Hidi, 2011). Schiefele (1991) conceptualised this phase of well-developed individual interest by distinguishing between *feeling-related valences*, which refer to feelings associated with particular activities—such as involvement, stimulation—and *value-related*

*valences*, which refer to personal significance or importance that is attributed to the activity or object.

For this multitude of considerations to ‘pull in the same direction’ and enable students to develop the skills to learn and the motivation to learn, tasks need to stimulate students’ interest and generate the skill and will to learn. Students’ interest in a subject has been found to be strongly associated with how concentrated, happy, activated and intrinsically motivated they are in class, as well as being strongly correlated with a student’s self-esteem and perception of their skill in the subject (Schiefele & Csikszentmihalyi, 1994).

Intrinsically motivated learners have been found to use appropriate learning strategies (Pintrich and Schrauben, 1992, cited in Eccles & Wigfield, 2002). Other studies have found that intrinsic motivation is increased when participants exercise choice among activities (Patall, Cooper, & Robinson, 2008). Indeed, research suggests that “positive affect fosters responsible behaviour and effective performance of tasks that need to be done, even while promoting increased enjoyment of enjoyable tasks” (Isen & Reeve, 2005, p. 319). As such, the SDA approach, which draws on students’ self-control and choice in directing their assessment towards explicit learning goals, is clearly aimed at both motivating students and prompting them to apply appropriate learning strategies.

#### *Engagement as a multidimensional construct*

The study of engagement with the aim to enhance students’ learning has been explored from a number of different avenues. For example, some scholars have

focused on engagement as a factor for school completion and the prevention of dropout (Finn, 1989). Finn's seminal and widely cited work conceptualised engagement as a construct of behavioural components such as participation in class, and affective components such as belonging and valuing learning. Jennifer Fredricks, Phyllis Blumenfeld and Alison Paris (2004) called for a richer characterisation of how students behave, feel and think, which was reflected in their conceptualisation of engagement. In their influential paper, Fredricks et al. (2004) proposed a triadic approach to understanding engagement. This definition included behavioural engagement in the form of participation in academic and social activities; emotional engagement in the form of positive and negative reactions to teachers, class peers and school; and cognitive engagement which related to the idea of investment in the sense that students are willing to exert the effort needed to comprehend complex ideas to master difficult skills.

James Appleton, Sandra Christenson, Dongjing Kim and Amy Reschly, 2006, sought to expand the understanding of students' engagement by including psychological variables, which they measured using a self-report instrument designed to measure students' cognitive and psychological engagement with school. This framework conceptualised student engagement as consisting of academic, behavioural, cognitive and psychological components, and included influencing contexts (family, peers and school) as well as distinguishing among academic, social and emotional outcomes of engagement. Within this framework, academic engagement included indicators such as time on task and homework completion. Behavioural engagement referred to attendance, voluntary classroom

participation and participation in extracurricular activities. Cognitive engagement included indicators such as self-regulation and value of learning as manifested through goal-setting. The psychological indicators included feelings of identification or belonging and relationships with teachers and peers.

Given that the present thesis is not focused on engagement as a factor to prevent high school dropout, but instead takes a narrower approach by examining students' engagement with the task of directing their assessment as a learning process, Reeve's conceptualisation of student engagement during a learning activity is informative (Reeve, 2012). Johnmarshall Reeve and Ching-Mei Tseng (2011) recently proposed a conceptual model of students' engagement during a learning activity, which expands the concept of engagement. Grounded in self-determination theory (Deci & Ryan, 2002), this new perspective identifies four distinct but highly interconnected aspects: behavioural engagement, emotional engagement, cognitive engagement and agentic engagement. In this model, behavioural engagement is indicated by similar behaviours as Fredricks et al. (2004) described, namely that students are 'on task' and involved in the activity by paying attention, and persevering with their efforts to learn and conducting themselves in a manner conducive to learning. Emotional engagement is indicated by positive emotions during task involvement such as curiosity and enthusiasm (Reeve, 2012, 2013).

Cognitive engagement refers to how strategic the student is in their application of appropriate learning strategies and how they self-regulate their learning actively with respect to monitoring their understanding. In addition—and this is the

distinguishing feature of agentic engagement—students make a more or less proactive contribution into the flow of the learning activity (Reeve, 2012, 2013; Reeve & Tseng, 2011). This fourth dimension of engagement may manifest itself by students asking questions, or making suggestions that seek to enrich the learning activity, and by doing so the student actively seeks to create a more supportive learning environment for themselves (Reeve, 2012, 2013). The student thus has a role as both a producer and a product on the social system that frames the learning activity (Bandura, 2001, 2006).

Originally, the construct of agentic engagement was defined as “students’ constructive contribution into the flow of the instruction they receive” (Reeve & Tseng, 2011, p. 258). This entailed that “students intentionally and somewhat proactively try to personalize and otherwise enrich both what is to be learned and the conditions and circumstances under which it is to be learned” (p. 258). In a later paper, Reeve (2013) identified similarities with agentic engagement and other approaches such as transactional (Sameroff, 2009, cited in Reeve, 2013) or dialectical (Reeve, et al., 2004) classroom activity, in which students contribute to the flow of instruction in a reciprocal process with the teacher, which leads to advancement in learning. Reeve (2013) surmised that agentic engagement, in addition to being viewed as including students’ contributions into the flow of instruction, also may have a function as an ongoing series of dialectical transactions between student and teacher. He made comparisons between agentic engagement and other proactive, collaborative and constructive classroom activities such as formative assessment, arguing that meaningful

contradistinctions exist. In particular, Reeve (2013) posited that formative assessments are “collaborative, constructive and sometimes proactive approaches to instruction that facilitate learning, but they represent teacher-initiated, rather than student-initiated action” (Reeve, 2013, p. 581). This powerful statement articulates precisely the gap that SDA seeks to address and overcome.

Importantly, Reeve (2013) articulates how agentic engagement as a proposed new educational construct is more narrow and situated apart from SRL, arguing that a significant difference exists between the two in respect of the role and function of the teacher in supporting the student’s motivation and academic progress. Agentic engagement in the classroom is shaped by a transactional relationship between the agentially engaged student and their teacher, whose role is to support learning by creating learning conditions which help the student bring their otherwise latent inner-motivational resources to the fore.

As Reeve (2013) explains, the transactional relationship between teachers and students in an agentic engagement construct differs from the teacher’s role within SRL. In the latter, the teacher is a social agent who provides initial modelling and guidance, while students develop their “capacity to regulate their own learning in the *absence* of social supports” (Reeve, 2013, p. 592, emphasis in original). Despite this difference, Reeve (2013) suggests that agentic engagement would fit within the performance phase of the SRL cycle (Zimmerman, 2000), as the phase includes behavioural and cognitive engagement. With respect to the latter, of which environmental restructuring (Randi & Corno, 2000) and help-seeking

(Karabenick & Berger, 2013; Steed & Poskitt, 2010) are strategies, the notion of agentic engagement appears to be a good fit. As Reeve (2013) concludes:

What the new concept of agentic engagement can do for the SRL framework is what it can do for all educational models of students' motivation and engagement—namely, expand what it means for a motivated learner to be actively involved during a learning activity.

(Reeve, 2013, p. 592)

In regard to the addition that the agentic engagement offers to the SRL framework (Reeve, 2013), the SDA presents yet another dimension. Instead of being limited to the performance phase of SRL, SDA also allows for students' agentic engagement in the forethought phase. This is because it scaffolds a reciprocal collaboration between students and teachers, in regard to task analysis and strategic planning in the initial steps of the assessment as learning process.

This thesis's stance is that a pronounced focus on students as cognitively, behaviourally, emotionally and agentially active participants in their learning process, promises significant learning gains. The evidence from the growing number of studies of different aspects of agentic engagement certainly indicates significant gains, not only in respect of motivation, but also in respect of summative course achievement in longitudinal studies on South Korean high school students (Cheon & Reeve, 2013; Jang, et al., 2012; Reeve & Lee, 2014). In this emerging field of research, studies have used quantitative methodologies, predominantly using self-report questionnaires with scaled items (Cheon & Reeve, 2013; Jang, et al., 2012; Lee & Reeve, 2012; Reeve & Lee, 2014; Reeve & Tseng,

2011). Other data collection methods have included rating sheets for teacher observation with trained observers, and qualitative questionnaires (Cheon & Reeve, 2013), as well as correlations between student scale responses and end-of-course grades (Jang, et al., 2012). As such, an empirically informed emerging body of statistically significant findings helps inform the present study, which adopts a mixed-methods approach. Therefore, a complementary perspective is sought, in which the subjective experiences of the participating students and teachers is highlighted. Given the importance of subjective values to the concept of autonomy, qualitative approaches to gain an understanding of students' agency in the learning process should stand to make a valuable contribution to this developing area or research.

### **Situational contexts supporting students' motivation**

Ellen Skinner and Jennifer Pitzer (2012) make an important distinction between *indicators* of engagement and *facilitators* of engagement (Sinclair, Christenson, Lehr, & Anderson, 2003), which is helpful in conceptualising the role of motivation and engagement in the assessment as learning process. Indicators are markers which identify the descriptive parts of a construct (Sinclair, et al., 2003). By contrast, facilitators are the causal factors which have potential to influence the goal or aim (Skinner & Pitzer, 2012). Both indicators and facilitators of engagement can be distinguished from the *outcomes* of engagement, which refers to the results that engagement can produce (Skinner & Pitzer, 2012). Here, the focus is on facilitators of engagement, since this thesis aims to enhance factors which cause motivation to reach goals.

*Task value: a facilitator for motivation*

Several researchers make an explicit connection between how valuable students see the task and the level of interest students develop. In relation to the SDA, this is significant because of the prominent agentic role of students in the learning process. Eccles conceptualised task value based on the intrinsic interest it generates; in respect of a learner gaining enjoyment from doing the task, or the *anticipated* enjoyment a person expects to experience from engaging in an activity (Eccles, 2005). In an educational context, expectancy for success is also an important factor, which influences choice of tasks (Eccles, 2005). In Schiefele's conceptualisation of task value, a distinction between triggered interest and a longstanding personal interest is made (Schiefele, 1991), which also was noted by Hidi and Renninger (2006) in their model of the four phases of interest development. Relating this to educational contexts, students' underlying motivation when making choices in relation to setting achievement goals, persisting with difficult tasks and allocating effort in school are influenced with two sets of beliefs, which reflect both personal and social dimensions. The individual student's expectation for success in the task and the importance or value the individual student attributes to the options available are directly related to the achievement-related choices a student makes, such as setting goals and persisting with challenging tasks (Eccles, et al., 1998).

Research findings from Norway confirm the importance of task value. Øistein Anmarkrud and Ivar Bråten (2009) conducted a study among 104 Norwegian Year 9 students. The study examined whether the students' perceived reading

efficacy and reading task value predicted their comprehension of an 891-word social studies text. Using forced-order hierarchical multiple regression analysis, the relative contribution of the two reading motivation constructs, with control for other variables, were compared. The study found that even after removing variance from these variables, the motivation constructs accounted for additional variance. However, only reading task value was a statistically significant positive predictor of reading comprehension, whereas the relationship between reading efficacy and reading comprehension did not reach statistical significance. Anmarkrud and Bråten concluded that the findings suggested while researchers and teachers may emphasise cognitive constructs such as prior knowledge and strategic text processing (Fidalgo, Torrance, & García, 2008), the specific importance of promoting motivation for reading comprehension must not be overlooked. In regard to the SDA, this link between task value and achievement is important with respect to the discussion about competence in Chapter 6 and motivation in Chapter 7.

Pintrich (2004) stressed that successful self-regulated learners need to be able to control their effort and persistence even when tasks are boring or when they perceive the task to be of low value. However, given that students' perception of the task value has been found to impact on their achievement in a task (Anmarkrud & Bråten, 2009), it stands to reason that setting interesting tasks when possible facilitates learning. In addition, research suggests that giving students the possibility to choose aspects of a task has an impact on motivation (Patall, 2013).

A recent study of experimental sessions with computerised activities using text samples, motivation inventories in the form of questionnaires, and comprehension tests found that when college students are given the opportunity to make choices in a task, it may enhance their motivation (Patall, 2013). However, this is not always the case: the study suggested that when given the option to choose or not to choose in a task, motivation increases among students with a high task interest, compared to not choosing. Conversely, students who lack individual interest in the task prefer not to choose. Erika Patall (2013) suggested that this may be because rather than seeing choice as an opportunity to make a task more interesting, and to tailor it to their personal preferences and goals, making task-related decisions may be perceived as an additional self-regulatory demand in the context of a task that the students already dislike. As Tim Urdan and Julianne Turner (2005) have noted, most approaches to the study of motivation involve taking competence into account. This was also the case in the study by Patall (2013), who found that performance was higher among individuals who chose, compared to individuals who did not.

Applying these findings to the context of students directing their assessment—which involves individual students making choices—the findings by Patall (2013) suggest that being given the opportunity to make choices within a task may increase the level of motivation in students who perceive the task as interesting. In turn, making choices has been found to correlate with a higher performance. Another important inference can be drawn from Patall's study (2013): students who dislike a task prefer not to make choices. However, in this regard it is

important to note that the task and choice options in the cited study were limited. By contrast, tasks in the SDA context allow for a multitude of choices with respect to subject matter, audience, genre of writing and mode of demonstration. Thus, students have the opportunity to include aspects that they have an individual interest in (Hidi & Renninger, 2006; Schiefele, 1991).

*Scaffolding for engagement: complex tasks*

Skinner and Pitzer (2012) emphasise the importance of teachers' role in facilitating engagement through their interactions with students. Teachers need to promote students' intrinsic motivation by scaffolding challenging and enjoyable learning activities that encourage students to discover and follow their own interests and goals, in an approach that includes clear instruction and feedback (Skinner & Pitzer, 2012).

Thus, Skinner and Pitzer (2012) argue that teachers need to create classroom contexts that support students in developing increasingly more self-determined reasons for accomplishing the parts of learning that do not have the appeal of 'being fun'. Tasks that are extrinsically motivated can nevertheless allow for students to express their authentic self as *autonomous* learners, an idea that is central in self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2002), which Skinner and Pitzer draw on. However, for students to complete external tasks autonomously, they need to identify the task's value and relevance.

Students' perception of task value and relevance brings this review to the third thread, *creative thinking*, in which task value, relevance and innovative

approaches are core. The literature on creativity informs a key findings theme in this thesis, which emerged from the qualitative data. Hence, the literature review now turns to examine the central concepts in this field.

### **THREAD 3: USING ASSESSMENT TO DEVELOP CREATIVE THINKING SKILLS**

The present study did not set out to explore creativity. Rather, the aim was to examine assessment as learning by putting the student at the epicentre of the learning process as a director of choices. As discussed earlier in this chapter, agency, interest and intrinsic motivation are key concepts in this. However, strong correlations have been found between intrinsic motivation and creativity (Eccles & Wigfield, 2002; Hennessey, 2010). Also, research has found close relationships between creativity and intrapersonal factors such as cognition and personality traits, as well as between creativity and situational factors such as challenging tasks (Sternberg & Lubart, 1992). Consequently, it is hardly surprising that creative responses emerged as a central theme in the present study. To contextualise these understandings, which are discussed in Chapter 5, this review of relevant literature now shifts to creativity.

Research into creativity is often seen as having started with J. P. Guilford's 1950 Presidential Address to the American Psychological Association (Beghetto & Kaufman, 2007; Plucker & Makel, 2010; Simonton, 2000; Sternberg, 2003). From an educational perspective, it is noteworthy that Guilford emphasised the importance of creativity by asking: "How can we discover creative promise in our children and our youth?" and "How can we promote the development of creative

personalities?” (Guilford, 1950, p. 445). Guilford, grounded in the psychometric tradition, raised concerns about the validity of measuring instruments, and schools’ discouragement of creativity. The latter question is equally pertinent today as it was in 1950 (Beghetto, 2010). However, the field has broadened since Guilford’s days, when psychometric approaches to measuring creativity focused on fluency tests, and tests measuring the frequency of novel ideas (Guilford, 1950).

### *What is ‘creativity’?*

The concept of creativity has been defined as a product or an approach that is “both a novel and appropriate, useful, correct, or valuable response” to a task without a clear and readily identifiable path to solution (Amabile, 1983, p. 360). Robert Sternberg and Todd Lubart (1992) provide a definition similar to Teresa Amabile’s which, in addition, includes the ability to produce work that is high in quality (Sternberg, 2003; Sternberg & Lubart, 1992).

Others stress interaction in their definition of creativity, by stating that creativity is “the interaction among *aptitude, process, and environment* by which an individual or group produces a *perceptible product* that is both *novel and useful* as defined within a *social context*” (Plucker, Beghetto, & Dow, 2004, p. 90, emphasis in original). A summary of several definitions identified three key components in their definition of creativity:

First, creative ideas must represent something different, new, or innovative. Second, creative ideas are of high quality. Third, creative

ideas must also be appropriate to the task at hand or some redefinition of that task. Thus, a creative response is novel, good, and relevant.

(Kaufman & Sternberg, 2010, p. xiii)

When related to this thesis, assessing whether an idea is creative or not is a process which fits well with the social cognitive notion of triadic reciprocity (Bandura, 1986). To this end, intrapersonal factors such as the student's cognition and motivation are needed to generate a creative idea. Indeed, 'creativity' is at the highest order of cognitive skills in Benjamin Bloom's revised taxonomy (Krathwohl, 2002), which is highly influential in schools. Second, behavioural factors in respect of what action the student takes to respond creatively are evident. Third, situational factors are needed to provide a reference, to assess whether the response is of a high quality and appropriate. In this study, such references are provided by the NAPLAN marking criteria, which was used to score the students' writing samples.

The Consensual Assessment Technique (CAT) is a longstanding approach to measuring creativity (Amabile, 1982). The CAT involves using 'appropriate observers' who are familiar with the domain as independent judges of creativity. The present study used teachers to assess the students' writing samples. Creativity in the SDA context was judged as teachers reflected in interviews on the novelty, appropriateness and quality of the students' responses. In this respect, the study mirrors the CAT approach. However, as a mixed study, creativity is also a

component in the numerical data generated by marking criteria in the NAPLAN rubric.

### *Scales of creativity*

Commonly, a distinction is made with respect to magnitude of creative expression (Kaufman & Beghetto, 2009). This distinction relates to the external evaluation of the creative product (Beghetto & Kaufman, 2007). Creativity at genius level, commonly referred to as 'Big-C' (Kaufman & Beghetto, 2009; Kozbelt, Beghetto, & Runco, 2010), relates to unambiguous creative expression of great magnitude such as Henry Moore's sculptures, the music of Miles Davis, or paintings by the likes of Francis Bacon and Mark Rothko. The scope of Big-C has been described as "breakthrough creativity that changes a field" (Beghetto & Kaufman, 2007, p. 76). Dean Simonton (2010) makes the additional distinction by referring to the very highest level of eminent creative individuals as '**Boldface-C**'.

The smaller scale expression of creativity, 'little-c', concerns everyday creativity (Richards, 2010) or creative expressions that are novel to the individual but not to society at large. The lowest level 'mini-c' focuses on the creativity inherent in the learning process and is as such highly relevant in the SDA context. Ronald Beghetto and James Kaufman (2007) describe the scope of mini-c as "intrapersonal creativity that is part of the learning process" (p.76). Mini-c creativity can be exemplified as a student learning to write creatively whose work would not be deemed to be novel or useful in the wider context of short stories. Nevertheless, the student's story may represent something novel and appropriate to the individual student.

*Creativity with a 'little-c' and a 'mini-c'*

In the context of the SDA, the use of mixed methods means that both little-c and mini-c magnitudes of creativity apply. Both are explored in this chapter, starting with the wider perspective of the two—little-c. In the present study, little-c relates to the NAPLAN criteria, which were used to evaluate the writing samples. As described in Chapter 4, the creative domains of the NAPLAN criteria, *Audience*, *Ideas*, and *Character and Setting* are all criterion referenced. The degree of skill and sophisticated use of each writing aspect corresponds to mark allocation in the NAPLAN criteria rubric.

Applying Kaufman and Sternberg's (2010) definition, a response that is innovative, of high quality and appropriate to the task would be judged to be creative. Indeed, just such requirements are clear in the NAPLAN rubric. For example, the highest mark in the criteria for *Audience*, stipulates that the writer “caters to the anticipated values and expectations of the reader [, and] influences or affects the reader through precise and sustained choice of language and use of narrative devices” (MCEETYA, 2008b, p. 6). Clearly, this requires an appropriate written response, of high quality. What of the novelty aspect, then? While the phrase ‘cater to anticipated values and expectations’ may not appear to correlate with responses that are innovative, the explicit requirements to ‘engage the reader’ and to ‘influence or affect the reader’, do correlate. How could a writer engage, influence or affect a reader, if they did not capture the reader’s attention by using new ideas, perspectives and story twists? In short, clearly the writer needs to

produce work of significant creative quality—at least in a little-c context—to gain a high mark in this aspect of writing.

### **Intrapersonal influences on creativity: creativity resources**

Creativity is the result of distinct but interrelated components (Sternberg & Lubart, 1991b, 1992, 1996), which correspond well within the social cognitive notion of triadic reciprocity. Sternberg and Lubart (1992) describe the creative person as drawing on creativity resources, consisting of “intelligence, knowledge, thinking styles, personality, motivation and the environment” (p. 3). This description has much in common with social cognitive theory, which explains human functioning as the interaction among cognitive and personal factors; behaviour; and environmental influences (Bandura, 1986).

Researchers into creativity argue that a person’s intellectual capacity is a significant resource for creativity because a person’s ability to redefine a problem and to plan, monitor and evaluate information stems from intelligence (Sternberg & Lubart, 1992). These are the same reasons why intellectual capacity is a key factor in SRL (Zimmerman, 2000; Zimmerman & Schunk, 2011).

However, the present study does not examine intelligence, neither as a creativity resource, nor as a factor in students’ ability to self-regulate their learning. As a study squarely aimed at improving classroom practice by using the process of assessment as a learning activity, the individual students’ IQs have not been part of the research scope here.

The second of the creativity resources, knowledge, contributes to creativity by providing a knowledge basis from which a person accesses and develops further knowledge (Sternberg & Lubart, 1991a, 1992). From an assessment as learning view, this is at the core of the assessment process and the point at which the student is prompted to engage metacognitively by making sense of new information required in the task, critically relate it to prior knowledge, and by doing so drive their learning forward (Earl, 2013; Earl & Katz, 2006, 2008). In respect of this study, knowledge underpins the entire process from start to finish. The very first step of the SDA process involves the students analysing the learning goals expressed in the curriculum. This is a process of identifying and analysing what knowledge the student needs to aim for and demonstrate in their assessment.

The SDA process involves students in identifying what actions, strategies and resources they will use to demonstrate their knowledge of the learning goals in the assessment. By students setting up their checklist of actions, strategies and resources they will access on the SDA template, they engage in the process of organising their knowledge basis for the assessment, thereby accessing and developing further knowledge, to echo Sternberg and Lubart (1992).

Finally, knowledge is evident in the products, or assessment pieces, that students produce during the SDA process. As the writing samples in this study were marked according to a ten-category rubric (see Appendix K), the analysis of knowledge generated in the SDA process is a rich and varied source, including

both creative aspects such as audience and ideas, but also technical aspects such as spelling and punctuation as knowledge indicators.

### *Intellectual abilities and personality traits*

A person's proclivity to using their intellectual abilities affects the way they think and act. Simonton (2000) pointed out it has long been recognised that creativity correlates to certain personal traits. "In particular, [creative] persons are disposed to be independent, nonconformist, unconventional [...] and they are likely to have wide interests, greater openness to new experiences, a more conspicuous behavioural and cognitive flexibility, and more risk-taking boldness" (Simonton, 2000, p. 153). Similarly, Sternberg and Lubart (1992) noted that "creative individuals have [...] a desire to see problems in new ways, to undertake new challenges and to see things in their own way" (p. 3). Sternberg and Lubart (1991a, 1992) have argued that a host of personality traits such as tolerance for ambiguity; aptitude to persist with unconventional ideas which fail to gain immediate acceptance; willingness to take sensible risks; belief in oneself; and being committed to continued growth, rather than content with the experience of success, all are key to the manifestation of sustained creativity.

These arguments converge largely with research into self-regulation, which has found strong correlations between self-efficacy and level of success and persistence with challenging tasks (Stoeger & Ziegler, 2005; Winne & Hadwin, 2008; Zimmerman, 2008a). Similarly, the connections between intrinsic motivation and task persistence is well established (Vansteenkiste, et al., 2006; Vansteenkiste, Simons, Lens, Sheldon, et al., 2004; Vansteenkiste, Simons, Lens,

Soenens, et al., 2004), as is the link between motivation and creativity (Bandura, 1997).

It is therefore foreseeable that the SDA process is conducive to creativity, by providing students the opportunity to undertake new challenges and to independently demonstrate their knowledge in new ways. Directing the assessment process in the writing project is a process, which promotes students' persistence in working towards goals that are meaningful to them. By drawing on their learning preferences in respect of choosing what type of text to write, and selecting an intended audience for the text, students produce work that is individualised and therefore less conventional than tasks determined by the teacher in traditional assessment. By having input and choice in the assessment process, students are encouraged to persist with tasks that challenge and engage them.

Urdu and Turner (2005) explored teaching practices which promote students' development of competence by synthesising implications from various motivational perspectives. Among their recommendations they emphasised that classrooms should "promote perceptions of control and autonomy by allowing students to make choices about classroom experience and the work they engage in" (Urdu & Turner, 2005, p. 308). They acknowledged that this may be difficult for teachers to implement, given narrow curriculum restraints and challenges for teachers to find a balance "between promoting autonomy and offering too little scaffolding" (Urdu & Turner, 2005, p. 308). Given this concern, the SDA approach holds promise, as it is squarely aimed to help students develop

autonomy through a carefully scaffolded process, in which students are given the opportunity to exercise and develop their learning by employing unusual and possibly unconventional, yet personally relevant, creative ideas.

### *Motivation to drive creativity*

This chapter has already reviewed literature on motivation, so only specific links between motivation and creativity are reviewed here. Sternberg and Lubart (1992) argued that people who care deeply about what they do produce more creative work. Consequently, task-focused motivation is an important factor in the production of creative work. People who are intrinsically motivated are characterised by perceiving challenging tasks in a positive manner and by striving for competence or mastery of these tasks. However, the most significant element of their motivation is the curiosity and interest, which drives their learning (Beghetto, 2010; Eccles & Wigfield, 2002; Hennessey, 2010).

Beth Hennessey (2003, 2010) has argued that more than twenty-five years of empirical studies, which for the most part have been of an experimental nature using quantitative methods, have provided unequivocal evidence that intrinsic motivation is conducive to creativity and extrinsic motivation is almost always detrimental. For example, a study into effects of motivational orientation on creative writers found that poems written under extrinsic motivation conditions were significantly less creative than those written by intrinsically motivated writers (Amabile, 1985).

### **Learning actions which help creativity**

In the SDA approach, students actively plan and direct the assessment aimed at the particular learning goals. They also reflect on their achievements as they self-assess at the end of the process. Earlier studies examining middle and high school students' self-judgements of creative ability have found a positive correlation between creative self-efficacy and students' positive beliefs about their academic abilities and participation in academic activities (Beghetto, 2006). Beghetto (2006) noted that the findings "provide initial evidence substantiating the assertion that students focused on learning and self-improvement also see themselves as having a good imagination and capable of generating novel and useful ideas" (p. 454). However, it is noteworthy that the results indicated that boys, English speakers and older students reported significantly higher levels of creative self-efficacy than girls, English language learners and younger students. These findings inform the discussion in chapters 5 and 7.

Other studies comparing creative performance among high school students (Jiliang & Baoguo 2007, cited in Hennessey & Amabile, 2010) suggest that boys significantly outperform girls with respect to originality. Hennessey & Amabile (2010) suggest that this may be because boys and girls react very differently to extrinsic motivation factors. A study investigating whether competition influences primary school children's intrinsic motivation found that boys' creativity was enhanced in competition-like circumstances (Conti, Collins, & Picariello, 2001).

In relation to the present study, with its primary and middle school participants, these findings present interesting comparisons. While the SDA approach clearly is

not structured as a competition, it draws on extrinsic factors such as performance in the assessment. This discussion is continued in Chapter 7, in respect of this study's findings regarding engagement.

### **Fostering students' creativity in a situational context**

An environment in which ideas are sparked, supported and evaluated is essential in the promotion of creativity (Sternberg & Lubart, 1992). This may seem self-evident, but it is nevertheless important. From a teaching perspective, it is certainly worth reflecting to what degree classrooms constitute environments in which creative ideas are generated, put into practice and constructively evaluated. Beghetto (2010) has suggested that teaching practice rarely presents students with creative challenges, as traditional classroom practice with teacher-led activities continues to prevail. The emphasis on “facticity, correctness, linearity, concreteness” (Eisner, 2002, p. 5, cited in Beghetto, 2010, p. 452) poses a threat to students' creativity. Given that this thesis adopts a student-centred approach which aims to enhance agentic engagement, it may present opportunities for creative challenges to be included as part of the SDA approach.

In general, research suggests that teachers are reluctant to encourage creative ideas because they tend to prefer expected ideas (Beghetto, 2007, 2010). In fact, teachers have been found to perceive ideas that are unexpected, creative and unique as disruptive (Beghetto, 2005, 2007, 2010). In an interesting link to the discussion about Hong Kong in Chapter 2, a study into teachers' perceptions of creative student attributes (Chan & Chan, 1999) found that students who displayed traits such as being imaginative and “always questioning” were

perceived by primary and secondary teachers in Hong Kong as being creative. Yet, within the particular cultural context, teachers regarded such traits as socially undesirable. “[I]n the Chinese culture, it is common for people to regard nonconforming or disobedient behaviour as rebellious, expressive behaviour as arrogant or attention seeking, and assertive behaviour as self-centred or opinionated” (Chan & Chan, 1999, p. 194).

Studies into teacher perceptions of creative students from the US (Scott, 1999) concur with David Chan and Lai-kwan Chan’s (1999) findings. Using the ‘Scott Teacher Perception Scale’ of twenty-one items, 144 teachers and 133 college undergraduates responded to four fictitious student profiles. Christina Scott found that teachers rated creative children as significantly more disruptive, in contrast to the college students’ rating of creative children. “Because creativity is associated with more questioning by children, classroom teachers appear inclined to see it as a source of interference” (Scott, 1999, p. 327).

Indeed, this is a longstanding pattern. Teachers perceive highly creative students as non-conformists and easily distracted (Guncer and Oral, 1993, cited in Aljughaiman & Mowrer-Reynolds, 2005). Despite these well-documented teacher aversions to aspects of creative behaviour, research has shown that teachers recognise the importance of fostering and promoting creativity (Aljughaiman & Mowrer-Reynolds, 2005).

These previous findings distinctly suggest that teachers may be reluctant to encourage creative behaviours in students. However, perhaps this reluctance can

be overcome through improved scaffolding, to clarify the success criteria and promote self-regulation (Earl, 2013; Wiliam, 2011). If the purpose of the task is apparent to both the student and the teacher, and both the teacher and students perceive the task as meaningful it seems unlikely that students would become disruptive.

A final, noteworthy situational consideration in regard to creativity is that creativity has been found to take a back step in teaching practices, when assessment plays a key role for accountability purposes (Beghetto, 2005). This is poignant because of the present study's use of the NAPLAN marking rubric. It is also important in respect of the accountability agenda which, as discussed in Chapter 2, significantly shapes the wider framing of this study (Hardy & Boyle, 2011; Klenowski, 2011; Klenowski & Wyatt-Smith, 2014; Lingard, 2010). Taking a step back in time, to Guilford's seminal paper on creativity, it is striking how relevant the passage below remains:

Many of us teachers assert that it is our main objective to teach students to think, and this means to think constructively. Certainly, if we succeeded in this objective, there should be much evidence of creativeness in the end product. [...]

Before we make substantial improvement in teaching students to think, in my opinion we will have to make some changes in our conceptions of the process of learning.

(Guilford, 1950, p. 448)

Guilford did not suggest an approach such as the SDA. However, just as in the quote above, the main objective of the SDA is precisely to teach students to think constructively. Indeed, the later chapters' discussion of this study's findings suggest there is much evidence of creativity in the end SDA product.

#### **GAPS AND TENSIONS IN UNDERSTANDINGS THAT INFORM THE STUDY**

This study is positioned in a field which overlaps AfL, SRL, agentic engagement and creativity, in which understandings are formed from social cognitive theory and the idea of triadic reciprocity. Consequently, this chapter has sought to integrate the dominant understandings from these fields; in doing so, four key gaps and tensions have been identified. This gap in existing understandings provides a warrant for the study.

First, while both AfL and SRL literature emphasise the importance of student engagement and involvement in goal-setting and student autonomy, the teaching approaches to develop these qualities in students are characterised by a unidirectional flow of instruction. In such instructional approaches, teachers set the tasks based on external standards, and convey partial goals and success criteria to students, who respond to a greater or lesser degree. By contrast, the SDA approach scaffolds a reciprocal process in which teachers provide support to students during the forethought stage, as they transform external goals from the syllabus to immediate sub-goals and learning strategies, which guide the performance phase of the learning process.

Second, the present study adopts a similar position to assessment as learning approaches, which apply a student-centred, reciprocal approach to instruction by conceptualising the student as a critical connector between external standards as goals and intrapersonal factors such as the students' current understandings. However, assessment as learning approaches tend to particularly focus on the performance phase of learning, in respect of developing students' metacognitive skills. By contrast, the SDA approach emphasises the forethought stage of the learning process, which is dominated by cognitive, affective and motivational factors.

Third, the AfL literature as well as the SRL literature has established the significance of feedback as vital in informing students how to improve their grasp of skills and concepts. In line with this study's emphasis on a reciprocal approach to instruction, feedback is here complemented by an articulate focus on help-seeking, which is well established as a key contributor to SRL, but less prominent in the AfL literature. This gap, in turn, reveals another gap because most of the SRL research has been conducted in high school and colleges. By contrast, this present study was conducted in a primary school setting.

Fourth, while research has established links between intrapersonal factors such as motivation, self-efficacy, cognition, and interest with creativity, the integration between these understandings and AfL has been minimal. In addition, despite creativity being the highest of cognitive understandings in Bloom's taxonomy (Krathwohl, 2002), which is highly influential in pedagogical contexts, research has repeatedly found that teachers are reluctant to encourage creative behaviours

in students. In addition, learning aimed to enhance creativity has been found to diminish in school contexts where assessment for accountability is prominent. To this end, the present study provides a much needed way forward by presenting a format of reciprocal instruction, which scaffolds students' development of creativity by requiring students to develop cognitive, emotive and motivational aspects of themselves in response to goals posed by external standards. In doing so, this study presents an innovative use of the National Assessment Program's marking rubric, by using it as a constructive resource to integrate creativity with assessment as learning pedagogy.

*Next chapter*

The next chapter provides an explanation of the methodology adopted to address the research questions and the gaps in existing knowledge, which have been articulated in this chapter.

First, the chapter situates the study within its theoretical framework and design. The chapter then outlines the ethical considerations, before turning to describe the methods and procedures for data collection and analysis. The qualitative sources include interviews with teachers and students, students' planning records and students' writing samples.



## Chapter 4: Methodology

The previous chapter, the review of literature, identified three key themes, which defined the conceptual framework for the study, using assessment to foster *goal-setting* and students' development of *competence* as self-regulating learners in the learning process; using assessment to *motivate learning*; and using assessment to foster students in developing *creative thinking skills* in a situational context. These themes were linked by common understandings from research into Self-Regulated Learning (SRL) in combination with formative assessment practices.

The purpose of this chapter is to present the methodological considerations for the research. First, the chapter situates the study within its theoretical framework and design. The chapter then outlines the ethical considerations before turning to describe the methods and procedures for data collection and analysis.

### THEORETICAL PERSPECTIVES

It has been proposed that the philosophical ideas and assumptions which shape teaching practice often remain 'hidden', despite their profound influence on what goes on in a classroom (Wilson, 2013). It is therefore important to clarify this study's underpinning assumptions about the social reality of Student-Directed Assessment (SDA), as well as justifying the chosen procedures for discovering knowledge.

Ontologically, this study is shaped by the underlying belief that knowledge of the factors that influence SDA is complex, and that multiple perspectives of reality are needed, to gain a more complete understanding of how the social, cognitive and behavioural factors interact with each other (Creswell, 2014). Consequently, the study adopts a pluralistic focus (Creswell & Plano Clark, 2011) to explore how SDA shapes learning. This pluralistic focus seeks to examine *if* and *to what degree* the SDA impacts on learning results in a ten-folded set of indicators of achievement that works from the ontological assumption that particular indicators of learning can be measured (Taber, 2013). In addition, the study explores SDA as a phenomenon, in which behaviours—manifested as choices in the learning process—are assumed to have *causes* (Taber, 2013). Consequently, the underlying subjective factors such as students’ and teachers’ beliefs, feelings, thoughts and interests are explored. The role of values in the study is therefore an axiological mix of multiple stances (Creswell & Plano Clark, 2011), which includes two trajectories. These include subjective, biased perspectives from the participant accounts, and objective perspectives to examine results which entailed procedures such as double-blind marking of writing samples and the relevant protocols for statistical analysis. These are described in detail, later in this chapter.

Because the purpose of the study is to seek a nuanced understanding of how SDA shapes primary students’ learning, in which both the learning process and the product are taken into account, the study’s epistemology is shaped by a pragmatic approach to discovering knowledge. As John Creswell and Vicki Plano Clark (2011) have described, pragmatic research primarily focuses on finding suitable and effective methods for gaining a complex understanding of the question at

hand. Set within the pragmatic paradigm (Creswell & Miller, 1997; Creswell & Plano Clark, 2011; Howe, 1988; Morgan, 2007; Onwuegbuzie & Leech, 2005), the study deliberately abandons the forced-choice dichotomy between constructivism and post-positivism (Creswell & Plano Clark, 2011; Punch, 2009). As such, in order to answer the different research questions, the study draws on multiple perspectives and approaches. It uses interpretive perspectives (Bogdan & Taylor, 1975; Bryman, 2012; Hughes, 1990) to contextualise and illustrate the subjective reality of how the teachers and students perceived and experienced the SDA approach. This is complemented by a contrasting approach, the top-down, post-positivist perspective (Clark, 1998), which underpins the investigation of the assessment results. The statistical findings of the assessment results alone would not provide the rich insight and contextualise the significance of the findings, without student and teacher accounts suggesting influences that needed to be taken into consideration (Clark, 1998). Likewise, the qualitative data alone would not have been as informative without the complementing statistical significance generated by the quantitative analysis of assessment scores.

As discussed in Chapter 2, assessment policy in Australia largely is dominated by a quantitative focus on measurable outcomes. Consequently, and in line with the mixed-methods aim of seeking a deep and multifaceted understanding of the issue (Bryman, 2006), it is relevant to examine how the SDA approach compared with the Teacher-Directed Assessment (TDA) approach in respect to measurable results. Hence, an objective approach guides the study's quantitative focus, which involved measuring numeric assessment scores against the criterion-referenced marking categories used in the NAPLAN.

### *The purpose of a mixed-methods approach*

A number of factors underpinned the decision to adopt a mixed-methods approach in the study. As illustrated in Figure 4.1, later in this chapter, the study's *different research questions* (Bryman, 2012), required both qualitative and quantitative approaches to be used, to gain a comprehensive, nuanced and deep understanding of the issues raised by the questions. One key aim with using different research sub-questions was to seek *complete* understandings (Bryman, 2006, 2012; Onwuegbuzie & Leech, 2004), by taking the perceptions and reflections of students and teachers as well as numeric evidence in the form of assessment results into account. This, in turn, enabled *enhancement* of the qualitative and quantitative findings (Bryman, 2012). In addition, this allowed for *mutual corroboration* (Bryman, 2006) between the participants' accounts and the writing experiment to see how learning was impacted when a SDA approach was used. As previously explored in Chapter 2, in the current Australian policy climate, with its focus on school performance and achievement results, it is nonetheless timely to use both narrative and numeric data to seek a complex understanding of the assessment process and results investigated, using an evidence-based approach that allows the inclusion of student perspectives. With this in mind, the study aims to serve a *utility* purpose (Bryman, 2006), by using the findings to contribute to the development of assessment as learning processes, for the benefit of students' learning and teachers' professional practice. Finally, various qualitative and quantitative research methods have their own particular strengths, so by employing strategic combinations, the aim was to *offset* (Bryman, 2006) the weaknesses and draw on the strengths from both perspectives.

## DESIGN

The study is a one-setting, cross-sectional (Bryman, 2012) form of practitioner research (Punch, 2009). It uses mixed-methods research techniques in a concurrent, parallel design (Teddlie & Tasshakori, 2006), with the qualitative and quantitative components being of equal status. The study design bears strong similarities to the SRL cycle (Zimmerman, 2000) and its three phases of forethought, performance and self-reflection. The study's forethought phase involved collaboration between the teachers from years 2, 4 and 6, and myself as the investigator, in developing the students' planning templates, which they would use as part of the performance phase of the project. The forethought stage of the project also involved surveying the teachers in respect of their existing assessment practices.

The performance phase of the project refers to the time when the classes conducted their writing projects, which followed a quasi-experimental design (Cook & Campbell, 1979). As Bryman (2012) explained, quasi-experiments share certain qualities of experimental designs, but do not fulfil all the internal validity requirements and do not use laboratory settings. The quasi-experiment in this study was conducted in the students' normal classrooms and used intact classes in years 2, 4 and 6, rather than random sampling of students from different groups. However, the intact classes were randomly assigned as experimental groups (SDA groups) or control groups (TDA groups). Interviews with both students and teachers were conducted during the study's performance phase, concurrently with the writing experiment.

The self-reflection phase involved students filling out their evaluation of their work on their planning templates. In addition, follow-up interviews were conducted with the same students and teachers who had been interviewed while the project was underway.

Analysis of the qualitative data started during the project as interviews were transcribed. Once all the writing samples had been double-blind marked (Baird, 1998) by two trained markers, using the NAPLAN marking rubric (MCEETYA, 2008b, Appendix K), the statistical analysis began. A detailed description of how both the qualitative and quantitative analysis was conducted follows later in this chapter.

Thus, the data collection for the qualitative and quantitative aspects of the parallel design were collected at the same time, but analysed separately before being merged through triangulation to validate and confirm the understandings generated in the separate qualitative and quantitative analysis (Bryman, 2006, 2012; Onwuegbuzie & Collins, 2007; Onwuegbuzie & Leech, 2004; Punch, 2009).

#### *Method of inquiry*

Four research questions are explored in the study, as illustrated in Figure 4.1. The key research question for this study is: ‘How does Student-Directed Assessment shape learning?’

The second, qualitative sub-question asks: ‘How do students engage in learning, when required to identify and engage in task analysis and strategic planning by

identifying sub-goals for their progress towards mastering a specific learning outcome?’

The third sub-question focuses on students’ choices of demonstrating their learning. This question includes descriptive, quantitative aspects in regard to the types of text students chose as a format for demonstrating their writing skills. Interpretive approaches to explore the subjective reasons given by students are also examined here.

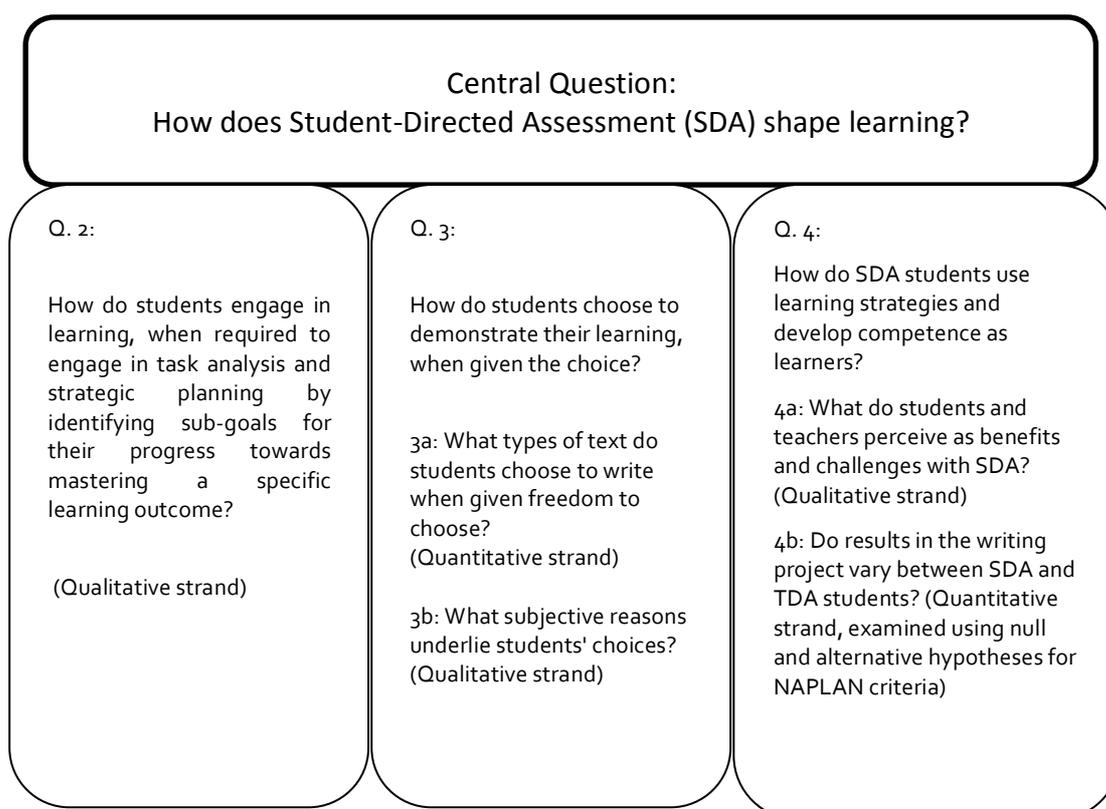
The fourth research question investigates the advantages and disadvantages of SDA, from the subjective points of view expressed by teachers and students. In addition, an objective view in regard to results in the writing project is examined, using null and alternative hypotheses:

H<sub>0</sub>: Writing samples from the SDA Group do not exhibit a higher mean score in [*NAPLAN Marking Criteria*] compared to writing samples from the TDA Group.

H<sub>1</sub>: Writing samples from the SDA Experiment Group exhibit a higher mean score in [*NAPLAN Marking Criteria*] than writing samples from the TDA Group.

Given that the study’s conceptual framework draws on research findings that suggest student involvement in goal-setting (Hastie, 2013; Hattie, 2012; Schunk, 1985, 1990, 1995; Zimmerman, 2008a) and use of SRL strategies such as analysing tasks leads to gains in learning outcomes (Foos, et al., 1994; Leutner, et

al., 2007), it was relevant to explore if the SDA approach would generate higher assessment results. For this purpose, null and alternative hypotheses were used to measure the SDA group results compared to the TDA group results, which in this study represent the same approach as used nationwide in the NAPLAN.



*Figure 4.1: Research questions*

### *Study setting*

The data was collected at a co-educational, independent (non-government, non-religious) school, located in the suburbs of Darwin, in the Northern Territory, in

Australia. At the time of data collection, the school had an enrolment of approximately 700 students from Kindergarten to Year 10.

The school was ranked slightly above the Australian average on the Index of Community Socio-Educational Advantage (ICSEA) with an ICSEA score slightly above 1000. The ICSEA index (ACARA, 2011a) takes into account a number of variables such as the location of the school, the occupation and education level of parents, socio-economic characteristics of the areas where students live, and the proportion of students from a language background other than English, as well as the proportion of Indigenous students. The Australian average ICSEA score is 1000.

#### *The role of the researcher*

The study started as traditional practitioner research (Burton & Bartlett, 2005), instigated by my wish to critically examine how students can play a central role in setting goals for their learning. In particular, I sought to raise my students' metacognitive engagement by scaffolding them to reflect on their learning, and monitor it against the success criteria for instruction.

However, by the time I was due to seek ethics clearance and formalise a proposal, my role at the school had changed. Instead of teaching a grade class, my new role was to coordinate and teach the school's Gifted and Talented Program. This position entailed working closely with class teachers across all year levels of the school, and presented the opportunity to explore goal-setting as part of assessment as learning in a range of classes. With respect to practitioner research, this meant

that the data collection was not carried out in my own class, but in the classes of colleagues, who had volunteered to participate in the project. Keith Punch (2009) points out that small-scale, teacher-initiated inquiry may lead to larger projects as teachers develop evidence-based practice, and that practitioner research need not be confined to the teachers' own classroom.

In respect of my role as a practitioner–researcher investigating the professional practice of other teachers at the school, a number of issues needed to be addressed. An obvious ethical consideration was not to coerce these colleagues, as I was in a position of trust and well immersed in the setting as a longstanding member of the staff. Ethical procedures with informed consent, freedom to withdraw at any time, member checking of transcripts and use of pseudonyms were followed rigorously.

Another concern with all practitioner research is bias and subjectivity. As Punch (2009) suggested, it may be difficult for the practitioner–researcher to remain objective and unbiased in the collection and analysis of data, from a setting in which one is involved. In respect of this study, purposeful sampling with clear criteria was used to collect all qualitative data. With regard to analysis, objectivity was sought through double-blind marking by two trained markers. Jo-Anne Baird (1998) argued that clear marking criteria minimises marking bias, so the NAPLAN marking rubric, with its explicit criteria at all levels, helped address bias.

With respect to analysing and contextualising the data, it was very helpful to come from 'the inside' as a familiar member of the school community, with a

sound understanding of its routines and procedures. As Punch (2009) acknowledged, insider understanding is one of the key benefits of practitioner research, as it facilitates access and convenience. For example, the participating teachers and students frequently sought me out for an informal meeting to share their thoughts and raise any queries.

My long-term engagement with the site and well-developed understanding of its culture thus lent an ethnographic quality to the study (Walford, 2001, cited in Burton & Bartlett, 2005). Observation was used minimally in the study; instead, data was gathered from interviews and written sources, so my role as a researcher was what Bryman (2012, p. 443) has called a “minimally participating observer” in respect of being present when the projects were initiated in each class, but not present in each class throughout the entire learning process. This relative distance was helpful because it meant that teachers and students would provide a more informative account in their interviews, as they were ‘putting me in the picture’ through their reflection. Yet, as a teacher at the school with a well-developed understanding of the setting, I could easily contextualise these reflections. Not being in the classrooms throughout the learning process also helped me step outside the situation, which facilitated theorisation (Burton & Bartlett, 2005).

#### *Participants and sample considerations*

The study involved a total of 256 students (121 boys and 135 girls) from years 2, 4 and 6, together with sixteen teachers who taught the relevant classes. A number of different sample strategies were used in the study. A cluster (Teddlie & Yu, 2007) of students in years 2, 4 and 6, (aged approximately 7, 9 and 11 years) were

chosen as the sample group specifically because their age range covers the primary years. Also, none of these year groups participate in the NAPLAN tests, which are a time-consuming exercise, and which would possibly be assessment overload for both the students and teachers. Within these clusters, the study employed a parallel sampling design (Leech, Onwuegbuzie, & Combs, 2011; Onwuegbuzie, 2007; Onwuegbuzie & Collins, 2007), with an SDA parallel and a TDA parallel.

As stated previously, random sampling was used to assign which of the pre-existing classes would use the SDA approach in the writing project, and which classes would conduct their writing project using a TDA project. As pre-existing classes were used and different teachers taught the different classes, the writing project can best be described as a quasi-experiment (Campbell, 1986; Cook & Campbell, 1979). Consequently, the quantitative findings based on the comparison of scores in the writing project have clear limitations in their generalisability (Bryman, 2012), as the sample group was small. In addition, the experiment was only conducted at one setting, so the statistical results only apply to that setting. Also, as a quasi-experiment conducted in intact classes, with their class teacher, the statistical results do not have the same level of validity as results generated by a traditional experiment in a setting with strict control of variables.

Sixteen students, two from different participating classes across all three year levels, were purposefully selected for interviews, using criterion sampling (Bryman, 2012; Onwuegbuzie & Collins, 2007). The criteria included variables such as: gender, age and SDA/TDA group. In addition, judgement sampling (M.

Marshall, 1996) was applied to select students who were deemed by their teachers to be sufficiently confident and reflective to be suitable interview participants.

The sixteen participating teachers in the study were selected simply because they taught the relevant classes. Out of this sample group, ten teachers were interviewed on the basis of their experience, the year level they taught and whether they represented the control ( $n= 3$ ) or experimental ( $n= 7$ ) group.

#### *Ethical considerations*

Great care was taken to prevent the participants from suffering any disadvantage by partaking in the study, and to inform them of the nature of the study. All students were interviewed in pairs to avoid them feeling uneasy by being alone with me, whom they knew as a teacher at the school. As Paul Warwick and Roland Chaplain (2013) point out, children may be very uncomfortable about expressing their views to a figure of authority. Another reason for conducting the student interviews in pairs was to encourage reflectivity by providing ‘think time’ for one student, while the other was talking (Lewis, 1992, cited in Warwick & Chaplain, 2013). The aim with interviewing pairs of students was also to prompt a more fulsome discussion in which the students could ‘bounce off’ ideas from each other’s responses (Ary, Jacobs, Sorensen, & Walker, 2014; Lankshear & Knobel, 2004).

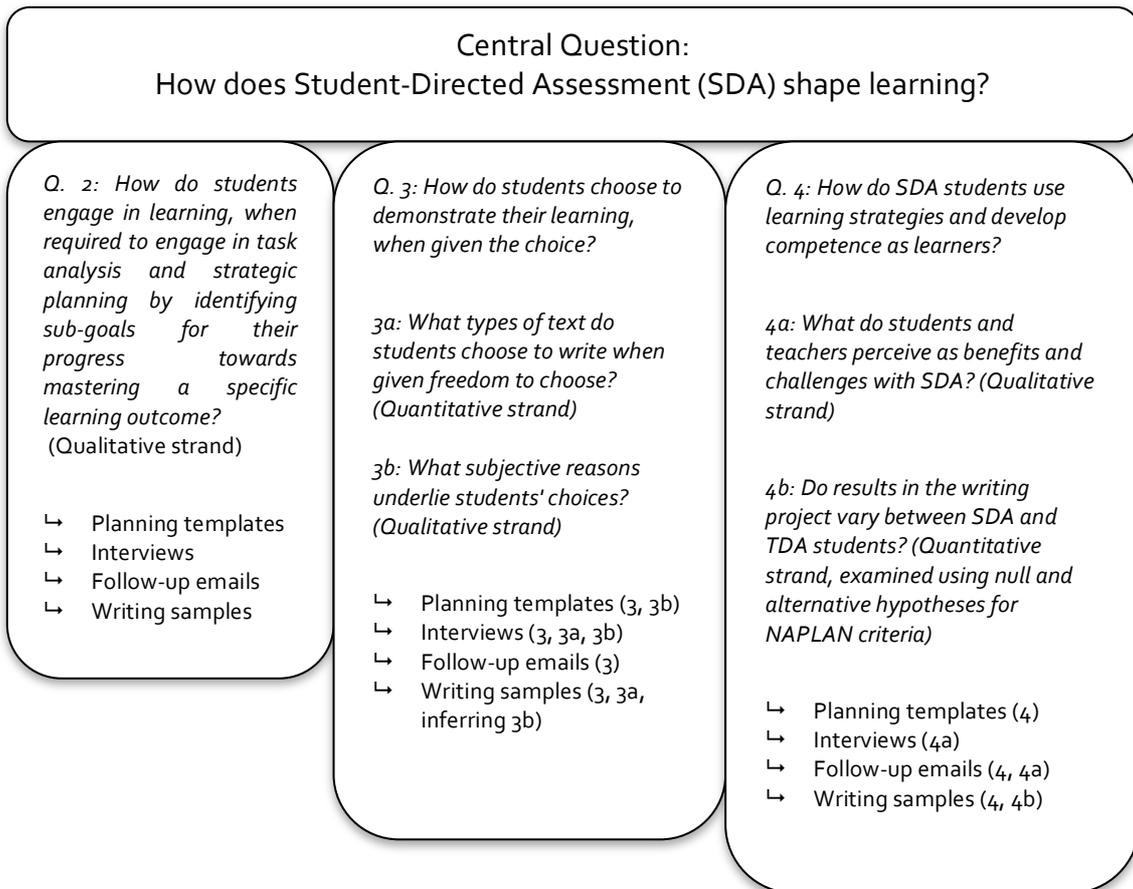
Ethical clearance to conduct the study was sought and granted by the University’s Human Research Ethics Committee using the National Ethics Application Form. As Punch (2009) suggests, a hierarchy of consent applies in a school setting, so

informed written consent was sought and gained from the school principal and from all parents and guardians of the participating students, as well as from the students and teachers themselves (see Appendices A, B, C, D and E). All participants were assured that they were free to withdraw from the study at any time, without prejudice (Creswell, 2014). The collected data was protected by being processed for limited purposes and kept secure (Bryman, 2012). By replacing all participants' names with pseudonyms, before coding and analysis, the anonymity of the participants was protected (Creswell, 2014). Care was taken to ensure some teacher pseudonyms were gender neutral, to avoid accounts from the only male teacher being identifiable (Punch, 2009).

## **DATA COLLECTION**

### **Instruments**

Five different instruments were used to collect data, to answer the study's central question: 'How does Student-Directed Assessment shape learning?' An outline of each instrument now follows, with its mixed-methods purpose described and related to the relevant sub-questions (also illustrated in Figure 4.2).



*Figure 4.2: Instruments used to address the research questions*

### *Initial survey*

A survey to provide background information of current assessment practice was given to all participating teachers in years 2, 4 and 6. This survey was aimed at generating information on how the teachers perceived that the students best learn, and the information was used to inform the design of the SDA planning template.

### *SDA planning template*

Different planning templates were designed for years 2, 4 and 6 as the targeted outcomes from the syllabus varied (see Appendices H, I and J). Teachers from the

relevant year levels were consulted in the development of each planning template to have input in respect of the template's language, layout and suggested strategies. The SDA planning template was a central instrument in the study, as it informed all sub-questions (see Figure 4.2). The templates addressed questions 2 and 4 in its 'checklist' section, where the students listed strategies and sub-goals for their learning. Question 3 was indicated on the planning template by the student's choice of text and audience and any reasoning provided by the student for these choices.

The planning templates' self-evaluation section was helpful in providing an open-ended opportunity for students to comment on their effort and any significant aspects of their project. These reflective responses gave insight to questions 2, 3, 3b, 4 and 4a.

### *Interviews*

Two rounds of semi-structured interviews with sixteen students and eight teachers were conducted, which addressed questions 2, 3, 3a, 3b and 4a (see Figure 4.2). These interviews provided rich descriptions of a wide range of views and experiences from the project's participants. As described in the sampling section of this chapter, the interviewees represented both the SDA and TDA cohort and included a boy and a girl from participating classes. The first round of interviews was conducted while the projects were underway and the second round was conducted after the writing projects had finished, which lent a time perspective of both the students' and teachers' experience. The second interviews were

informative in relation to all questions, but particularly helpful with respect to question 4a.

#### *Follow-up emails from teachers*

This method of data collection provided a written account from the teachers' provided insight to questions 2, 3, 4 and 4a.

#### *Writing samples*

The writing samples from all participating students in the SDA and TDA groups in years 2, 4 and 6 addressed questions 2, 3, 3a and 4 directly, and inferred answers to question 3b (see Figure 4.2). In addition, the Year 4 and Year 6 students' writing samples addressed question 4b. The Year 2 samples did not address this question because they were not part of the statistical analysis, as this group did not have pre-tests for each individual student from the previous NAPLAN test. Without pre-tests to check for pre-existing differences between the groups, the analysis of the post-test scores would not be helpful to inform question 4b, which is why the Year 2 students are not included in this respect.

### **PROCEDURE OF DATA COLLECTION**

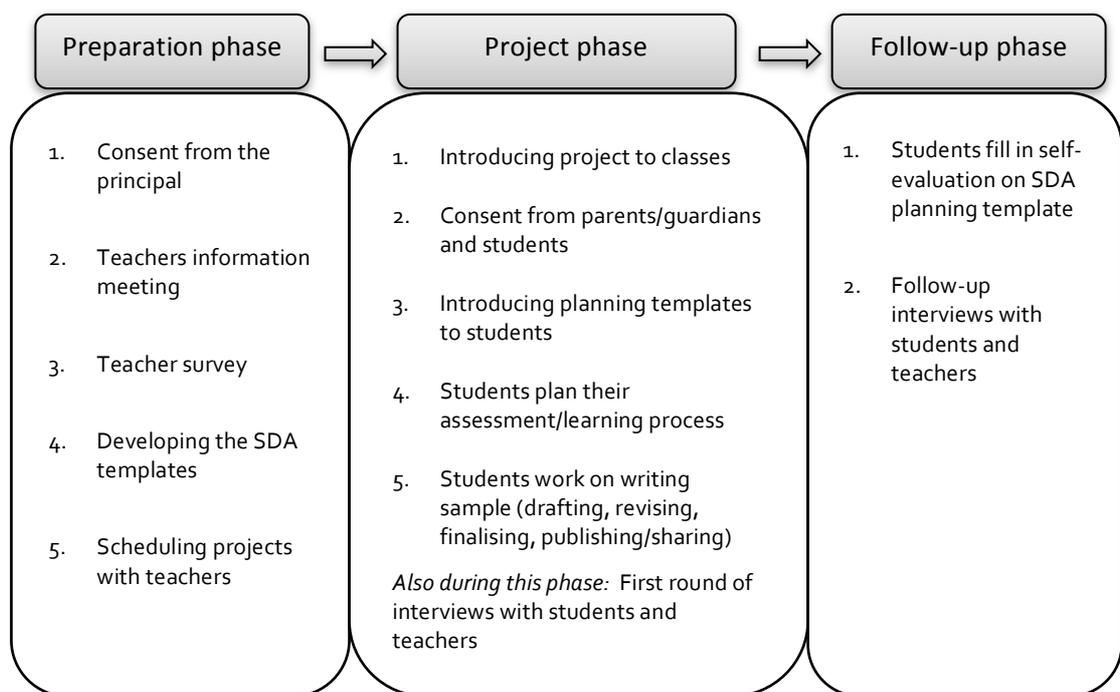
#### **Preparation phase**

As previously mentioned in this chapter, the study reflected the SRL cycle's three phases (Zimmerman, 2000) in respect of having *before*, *during* and *after* stages of data collection, as illustrated in Figure 4.3. Conducted as a form of school-based practitioner research (Punch, 2009), my role as a researcher involved designing the project and handling the collected data. However, the class teachers of the

participating classes had an important role in the project, partly with respect to being interviewed, but also in respect of conducting the writing component, which constituted the quasi-experimental part of the design. It was therefore important that these teachers had input into how the project would be conducted, not least from an ethical standpoint by ensuring that the project would be a meaningful part of the classroom practice, rather than a time-consuming demand (Lankshear & Knobel, 2004).

After informed consent had been sought and granted from the school principal, the teachers were invited to an information meeting about the study's aim, central question and design. It was explained to the teachers that participation was entirely voluntary and in no way a requirement from the school. The teachers were given written information and consent forms to return, should they choose to participate in the study. One teacher chose not to participate, but the others of the invited years 2, 4 and 6 teachers volunteered to be part of the project.

Once the teachers had returned the consent forms, and the initial survey, I met with each teacher individually to discuss how their ideas of how best to involve students in demonstrating their knowledge of learning outcomes in literacy. Each teacher and I also worked on translating the curriculum outcomes into language which the students would understand. The translated learning goals were then used to draft planning templates for the students at each year level, which each teacher at the relevant year level had to approve before the project was introduced in their class.



*Figure 4.3: Illustration of the study phases*

#### *Developing the SDA planning template*

A key concern for the class teachers and myself was to make the template easy for the students to use. For example, we all thought that using an A3 format, which

was folded in the middle, would help avoid loose sheets. Also, care was taken to design a layout that enabled the students to view the translated syllabus outcome when they constructed their checklist of the partial goals and strategies they planned to use during the assessment process. As each year had different learning outcomes, three different SDA planning templates (see Appendices H, I and J) were designed to guide students in the writing project.

Before the introduction of the writing project in each class, I met with each individual teacher to go through the finalised SDA planning template for their year level and to discuss how to introduce the writing project with the particular class. Although the study was not an action research project, as a practitioner–researcher whose study so clearly involved others, I was mindful to facilitate the teachers’ involvement in the study (Stringer, 2013). In particular, this entailed allowing the teachers freedom in deciding how long the project should run in their class, and when in the term they wanted the project to run. Thus, the teachers’ professional judgement had a significant impact in shaping how they conducted the project in their classes. This is discussed further in the ‘findings’ chapters.

### **Project phase**

Once each teacher and I had agreed on when the project would run in their class, I visited each class to introduce and explain the project to the students. During these visits, information sheets and consent forms for students and parents were handed out (Appendices D and E). Once the consent forms had been returned, I visited the class again when the project started, and students began working on planning their assessment using the SDA planning templates. Because of the

teacher's role in deciding how long to run the project in their class, and how to integrate the project with the ongoing teaching, all students in the SDA classes were involved in using the templates. However, in respect of the data collection, only templates and writing samples from students with consent were collected. Because the whole SDA process aims to emphasise the students' central role in the learning, consent was sought from both the student as well as their parents/guardians, thus only templates and samples with consent from both were used in the analysis. The majority of all students and parents/guardians gave their consent for participation in the study (82.7% in Year 2; 84.8% in Year 4; and 88.2% in Year 6).

#### *The writing project*

The writing project, or quasi-experiment (Baumgartner & Strong, 1998), followed next. I visited each class again and helped the class teacher introduce the SDA planning template to the students in the SDA classes. As previously explained, the class teacher conducted and facilitated the writing project in their class. Ongoing feedback, in discussions and through email correspondence, was sought regularly from the teachers during this phase, as the projects were conducted in the relevant classes. This feedback was aimed at prompting the teachers' reflection and to gather impressions of how the project was going with their classes.

During the same term as the SDA projects were conducted, the TDA classes worked on their writing projects. In total, 126 SDA writing samples and 130 TDA writing samples from years 2, 4 and 6 were collected from the students.

The difference between the two groups was that the TDA students did not fill out planning templates specifying how they would meet the learning goals. In addition, the teacher determined the text type that the TDA students were required to write. In the TDA groups, the teachers explicitly directed the students to present their ideas and information in accordance with the certain text type the student had to write. All classes had charts with the particular elements of each text type clearly displayed. For example, the narrative chart displayed a ‘story mountain’, with separate sections displaying the orientation, lead-up, complication, resolution and ending. Exercises in which students worked on important elements of writing, such as developing character portraits for their writing sample, were also part of the explicit teaching in the TDA groups. The TDA students were provided with teacher-made rubrics of the marking criteria for the writing sample but, crucially, the TDA students did not set up their own goals for how they would address the marking criteria.

In both the SDA and TDA classes, a longstanding focus on spelling, grammar, punctuation and the use of descriptive, rich vocabulary was part of the ongoing English program, to which much of the lesson time was dedicated. Although the set student books for grammar, spelling and vocabulary were the same for both the SDA and TDA classes, differences in teaching style naturally occur. However, for some of these the school had procedures in place to minimise differences in delivery of the explicit teaching expectations. For example, the school had a longstanding practice of moderating assessments across each year level at least once per term.

*Semi-structured interviews*

During the project phase, the first round of semi-structured interviews was conducted with sixteen students (see Appendix F). As stated previously, the interviewees were selected on the basis of gender, age, class group, level of confidence and ability to reflectively contribute in an interview, and the semi-structured interviews addressed questions 2, 3, 3a, 3b and 4a. These interviews provided rich descriptions of a wide range of views and experiences from the project's participants.

The interviews lasted about 30 minutes each and were conducted during school hours in a small classroom, normally used for support and enrichment classes. All students were interviewed in pairs of one boy and one girl from the same class. This was done to help students feel comfortable in the company of each other, and also to set up a situation in which students could feed ideas off each other in an informal conversation (Lankshear & Knobel, 2004; Warwick & Chaplain, 2013). The first round of interviews was conducted at the time the writing projects were started, in July 2009. Students from the SDA classes and TDA classes were interviewed about their past experiences of learning and assessment, and in particular, only SDA students participated in the second round of interviews, which were conducted once the writing project had finished. These interviews explored how the students had experienced the SDA project.

All interviews were digitally recorded, and transcribed with voice-recognition software during the time of data collection (Fletcher & Shaw, 2011). By

transcribing concurrently, emerging themes in the data started becoming apparent early in the process.

*Table 4.1: Data collection – students (pseudonyms)*

Data types	Year 2 students	Year 4 students	Year 6 students
<b>Interviews</b>			
Initial interviews	Max and Phoebe (SDA), June, 2009	Malcolm and Georgia (SDA), June, 2009	Frances and Jeremy (SDA), August, 2009
	Beatrice and Clive (SDA), June, 2009	Ruby and Nicholas (SDA), June, 2009	Victoria and Alan (TDA), June, 2009
	Jenny and Isaac (TDA), October, 2009	Audrey and Tom (TDA), August, 2009	
Follow-up interviews	Max and Phoebe (SDA), September, 2009	Malcolm and Georgia (SDA), September, 2009	Frances and Jeremy (SDA), October, 2009
	Beatrice and Clive (SDA), October, 2009	Ruby and Nicholas (SDA), October, 2009	
<b>Questionnaires</b>			
Initial questionnaire (both SDA and TDA groups)	Yr. 2 students (n = 59), May, 2009	Yr. 4 students (n = 52), May, 2009	Yr. 6 students (n = 54), May, 2009
Planning templates	Yr. 2 SDA planning templates (n = 48), September, 2009	Yr. 4 SDA planning templates (n = 40), September, 2009	Yr. 6 SDA planning templates (n = 38), September, 2009
Writing samples	Yr. 2 SDA group (n = 48)*	Yr. 4 SDA group (n = 40)	Yr. 6 SDA group (n = 38)
	Yr. 2 TDA group (n = 23)*	Yr. 4 TDA group (n = 29)	Yr. 6 TDA group (n = 42)
Pre-tests scores (each students' 2008 NAPLAN results)	N/A	Yr. 4 SDA group pre-tests (n = 40)	Yr. 6 SDA group pre-tests (n = 38)
		Yr. 4 TDA group pre-tests (n = 29)	Yr. 6 TDA group pre-tests (n = 42)

*Note:*

*\*) Not used in the statistical analysis as students' pre-tests from the previous year's NAPLAN did not exist*

Table 4.2: Data collection – teachers (pseudonyms)

Data types	SDA teachers	TDA teachers
Interviews	Emma, Yr. 2 teacher, August, 2009	Anne, September, 2009
Initial interviews	Maria, Yr. 2 teacher, August, 2009 Alex, Yr. 4 teacher, August, 2009 Robin, Yr. 4 teacher, August, 2009 Ashley, Yr. 6 teacher, October, 2009 Monica, Yr. 6 teacher, October, 2009 Elle, Yr. 6 teacher, October, 2009	Sam, September, 2009 Marianne, October, 2009
Follow-up interviews	Emma, Yr. 2 teacher, October, 2009 Maria, Yr. 2 teacher, October, 2009 Alex, Yr. 4 teacher, October, 2009 Robin, Yr. 4 teacher, October, 2009 Ashley, Yr. 6 teacher, December, 2009 Monica, Yr. 6 teacher, December, 2009 Elle, Yr. 6 teacher, December, 2009	
Questionnaires	Ten teacher questionnaires, July, 2009	
Follow-up emails	Emma, Yr. 2 teacher, August - October, 2009 ( $n = 4$ ) Maria, Yr. 2 teacher, August - October, 2009 ( $n = 4$ ) Marianne, Yr. 2 teacher, August - October, 2009 ( $n = 2$ ) Alex, Yr. 4 teacher, August - October, 2009 ( $n = 2$ ) Robin, Yr. 4 teacher, August - October, 2009 ( $n = 3$ ) Anne, Yr. 4 teacher, August - October, 2009 ( $n = 2$ ) Sam, Yr. 6 teacher, August - October, 2009 ( $n = 2$ ) Ashley, Yr. 6 teacher, October - December, 2009 ( $n = 3$ ) Monica, Yr. 6 teacher, October - December, 2009 ( $n = 4$ ) Elle, Yr. 6 teacher, October - December, 2009 ( $n = 2$ )	

## DATA ANALYSIS

### *Transcription using voice-recognition*

The role and importance of transcription has rarely been examined (Fletcher & Shaw, 2011), and its role in the research process has frequently been overlooked (Davidson, 2009). The process of transcribing data has been described as a time-consuming, mechanical chore for the researcher (Oliver, Serovich, & Mason,

2005). However, the process provides the opportunity for the researcher to become familiar with the data and gain valuable insight to occurring themes as part of the initial data analysis (Anderson, 1998; Matheson, 2007; Park & Zeanah, 2005). As Davidson (2009) argued, transcription is an important interpretive, selective and representational process, and it is therefore important for researchers to clarify their choices when reporting on qualitative research. In this study, these choices were a reflection of the pragmatic “what works” (Creswell & Plano Clark, 2011) approach. Aiming to explore an innovative, time-saving approach to transcription, with the added gain of becoming familiar with the data, the open-ended questionnaire responses and semi-structured interviews were transcribed verbatim (Lankshear & Knobel, 2004), using MacSpeech Dictate (2008) voice-recognition software.

A notable benefit of transcribing with voice-recognition was that it lent flexibility to transcribe the data during the collection period. For example, a set of twenty-five open-ended questionnaires, which had been answered in a school class during the day, would take approximately an hour to transcribe later in the evening. In addition to presenting a quick and efficient way of processing data, the method enabled me as the researcher to gain a valuable understanding of the data content at an early stage. Arguably, the process of not only reading the data, but also dictating and proofreading it, contributed to my developing an awareness of the emerging themes. As Judith Lapadat and Anne Lindsay (1999) argued, transcription is an important component of the analysis process both as a product and as a process.

### *Qualitative data analysis*

A number of issues pertinent to the study's central question emerged during the transcription process, which resulted in initial identification of preliminary codes (Lankshear & Knobel, 2004). Further preliminary codes emerged during the re-reading of the questionnaire responses, interview transcripts, email correspondence with teachers, and the reflective sections of the planning templates. Thus, a combination of emerging and predetermined codes were used (Creswell, 2014). This initial identification resulted in some thirty-five codes, which were organised as nodes in NVivo.

A process very similar to what Colin Lankshear and Michele Knobel (2004) have described then followed, by which the repeated reading of transcripts generated identification of similar data that appeared significantly related to the central question. This constant comparative method of analysis generated categories which were organised into thematic codes (Ary, et al., 2014). From these thematic codes, understandings in respect of the study's qualitative sub-questions emerged (Lankshear & Knobel, 2004). As Creswell (2014) explains, data collected and analysed as part of qualitative research generate understandings of varying significance. In the case of this study, a student survey had been conducted as part of the performance phase. However, the student surveys generated very few understandings that appeared pertinent in the analysis. Therefore, the student surveys have not been discussed in any detail in this chapter, as the findings largely were discarded and not used to inform the qualitative sub-questions.

The emerging understandings in turn prompted further engagement with relevant literature, to make sense of, and distil, the themes that had emerged. In particular, this instigated a further review of literature on creativity, in addition to further review of research into SRL and engagement. Thus, the study's systematic steps of qualitative analysis came to adopt what Creswell (2014) refers to as a grounded theory approach, in which the open coding of information was positioned in a theoretical model. In this study's case, this involved positioning the emerging understandings of how SDA shapes learning into a conceptual framework of social cognitive theory (Bandura, 1986), which aims to develop a theory of SDA (Ary, et al., 2014).

The data was narrowed to eight thematic codes by me again revisiting the transcripts and relating the codes to key understandings from social cognitive theory as well as literature on creativity and engagement. These codes reflected factors to do with the individual, such as a range of *emotions*; own *preferences* and *choices*; *cognitive considerations* such as reflective learning, strategies and predictions; and expressions of *self-efficacy* and *persistence*. The eight themes also included *social considerations* such as references to peers and teachers; and *value judgements* such as the mentioning of 'real learning', authenticity and meaningfulness. Also, *descriptive* references to *teaching and learning practices* were identified as a theme. As illustrated in Table 4.3 below, these themes reflect the triadic components of social cognitive theory (Bandura, 1986).

Table 4.3: Codes

Main themes (in line with social cognitive theory)	Thematic codes	Preliminary codes
Individual factors	Emotions/Motivation Self/Autonomy Creativity Cognitive considerations Efficacy	engagement enjoyment pride purposeful learning pressure learning preferences own interest using own ideas imagination poetry challenging oneself furthering learning using strategies reflective learning organising thoughts prediction getting started trying one's best showing one's strength
Social factors	Social considerations Value judgements	collaboration peer- work- assessment responsibility following instructions real learning
Practices (behaviour/actions)	Descriptive references to teaching and learning Assessment practices Approach to SDA project	authentic assessment audience feedback / help-seeking template / writing project result / summative assessment learning outcomes (syllabus) writing skills genres structure strategies marking time

### *Statistical analysis using the NAPLAN marking rubric*

The statistical analysis of the writing samples was squarely aimed at addressing research question 4b: ‘Do results in the writing project vary between SDA and TDA students?’ To answer this purely quantitative question, the detailed and comprehensive marking criteria set out in the NAPLAN marking rubric (MCEETYA, 2008b) was used to mark all writing samples.

The rubric is used to assess both technical as well as creative aspects of writing, using ten separate criteria with specific scoring descriptors ranging from 0 to 6. Detailed descriptors for each level of performance within the ten criteria can be found in the marking rubrics (Appendix K), but an illustration of the range of scores and skill focus for each category can be found below, in Table 4.4. In addition, this table indicates whether the relevant category of criteria was used as a creative indicator of students’ competence (discussed in Chapter 5) or as a technical competence of writing (discussed in Chapter 6).

Table 4.4: Classification, score range and skill focus of the NAPLAN criteria

Type of category	Criteria	Score range*	Skill focus*
Creative	Audience	0-6	The writer's capacity to orient, engage and affect the reader
	Ideas	0-5	The creation, selection and crafting of ideas for a narrative
	Character and Setting	0-4	Character: The portrayal and development of character Setting: The development of a sense of place, time and atmosphere
Technical	Text Structure	0-4	The organisation of narrative features including orientation, complication and resolution into an appropriate and effective text structure
	Vocabulary	0-5	The range and precision of language choices
	Cohesion	0-4	The control of multiple threads and relationships over the whole text, achieved through the use of referring words, substitutions, word associations and text connectives
	Paragraphing	0-2	The segmenting of text into paragraphs that assists the reader to negotiate the narrative
	Sentence Structure	0-6	The production of grammatically correct, structurally sound and meaningful sentences
	Punctuation	0-5	The use of correct and appropriate punctuation to aid reading of the text
	Spelling	0-6	The accuracy of spelling and the difficulty of the words used

*Notes.*

\* as expressed in the NAPLAN marking rubric for writing (Ministerial Council on Education, Employment, Training and Youth Affairs, 2008b)

The writer's ability to engage the reader is scored in the *Audience* criteria. The *Text Structure* criteria focuses on the inclusion of narrative features such as orientation, complication and resolution. The third criteria examine the selection and elaboration of *Ideas* that feature in the writing sample. The portrayal of *Characters* and the development of a sense of place in respect of *Setting* are the fourth skill focus. In *Vocabulary*, the range and sophistication of language choices

are scored according to an annotated index. The sixth category, *Cohesion*, focuses on the clarity of meaning and flow of the text. With respect to score range, the narrowest criteria is *Paragraphing*, which looks at whether the text has been segmented into paragraphs which assist the reader. The eighth aspect, *Sentence Structure*, is used to determine to what degree grammatically correct and meaningful sentences are used in the text. The use of correct and appropriate *Punctuation* is scored in the ninth criteria. The last of the ten marking criteria is *Spelling*, which refers to the accuracy and level of difficulty of the words in the text.

Two markers, who had served on the NAPLAN marking panels in the Northern Territory, marked all the writing samples that underwent the statistical analysis. Consequently, each marker had previous experience of marking approximately 100 writing samples, each according to the NAPLAN criteria, prior to marking the writing samples generated in the study.

To ensure a match between pre-tests and post-tests, only post-test writing samples from students with available pre-test scores from the 2008 NAPLAN tests were used in the statistical analysis. As the NAPLAN is only conducted in years 3, 5, 7 and 9, NAPLAN pre-tests for the Year 2 group in the experiment were not available. Consequently, the Year 2 writing samples were not used in the statistical analysis. Similarly, any post-test writing samples from students in years 4 and 6 whose pre-test scores were missing were not used in the statistical analysis. The SDA post-test writing samples ( $n = 78$ ) and TDA post-test writing samples ( $n = 71$ ), combined with the same number of pre-tests, were used in the

statistical analysis. All in all, 149 pre-tests, together with 149 post-tests, provided a total of 298 writing samples.

The pre-tests were used to validate the data by testing for any pre-existing differences in the student cohorts. A reliability test of the 149 Year 4 and Year 6 students' pre-test NAPLAN scores and post-test writing samples revealed a *Cronbach's Alpha* value of .828, indicating that scores were sufficiently reliable to be used for further analyses. Effect sizes for all statistically significant findings were designated as small (.20), medium (.50) or large (.80) in accordance with Jacob Cohen's (1988) categories. Independent sample *t*-tests of all the NAPLAN criteria and the total score confirmed that no statistically significant differences existed between pre-tests from the experimental SDA Group and the TDA Group, used as control. With no statistically significant differences at the 95% accuracy level ( $p < 0.05$ ) between the subject groups in Year 4 and Year 6 respectively, equal variances between students in the SDA and TDA groups were assumed.

The statistical analysis of post-test results involved analysis of the multiple variables of the Year 4 and Year 6 students' writing scores using the ten-folded NAPLAN marking rubric. A repeated measures ANOVA test with the SDA group and the TDA group was used to assess change over time and differences across the two groups in Year 4 and Year 6. To examine the specific variances between the pre-test and post-test in the SDA and the TDA groups, the statistical analysis included comparison of means, standard deviations and effect sizes at pre and post test, post and pre-test and any interactions.

Bonferroni adjustment of p-values for the double-blind marked writing samples was used to address any inflation of family-wise errors (Chandler, 1995). In this case, the .05 alpha value was divided by ten, to adjust for the ten marking criteria used to score each writing sample. Consequently, for post-test comparisons between SDA and TDA students in the different criteria to be considered statistically significant, the p-value had to be less than .005.

#### *Final stage of analysis*

The themes from the qualitative data, with the relevant verbatim source of narrative data, were compared and contrasted with the quantitative results before final synthesis and meta-inferences were concluded (Onwuegbuzie & Leech, 2004; Teddlie & Tasshakori, 2006). The rich data provided by the interviews was supported by the planning templates and writing samples, which were analysed both from descriptive and interpretive purposes, relative to what choices they indicated and what these choices revealed about how SDA shapes learning.

In this way, the planning templates and writing samples have dual purposes in the study. By using both inferential data, primarily from interviews as well as numeric data in the form of assessment results, enhanced validity was gained by converging the corresponding results from multiple sources (Greene, Caracelli, & Graham, 1989).

The statistical findings of the assessment results alone would not have given the rich insight to the significance of the findings without the student and teacher accounts suggesting influences that needed to be taken into consideration (Clark,

1998). Likewise, the qualitative data alone would not have been as informative without the complementing statistical significance generated by the quantitative analysis of assessment scores.

The final stage of the analysis brought all the data sets together, synthesising student and teacher accounts, and relating these to the students' writing samples and notes from their planning templates. This synthesis underpins the discussion in the following 'findings' chapters, which have been organised into three broad organising themes, which in turn relate to the central question. These themes are: 'How SDA fosters students' creative thinking' (Chapter 5); 'How SDA students use learning strategies and develop competence as learners' (Chapter 6); and 'How SDA motivates and engages students in learning' (Chapter 7).

There is overlap among the themes identified in the data analysis, the threads of the literature review and the broad organising themes of the thematic discussion chapters, which carry forward the issues identified in the literature review.

## **LIMITATIONS**

As in any mixed-methods study, a number of validity issues such as representation, legitimation and integration need to be considered (Onwuegbuzie & Johnson, 2006).

In addition, because the present study is possibly best described as a design hybrid, a number of considerations need to be addressed. At the beginning of this chapter, the study was described as a one-setting, cross-sectional form of practitioner

research, which uses mixed-methods research techniques in a concurrent, parallel design.

### **Reliability and measurement validity**

When outlining the reliability issues associated with cross-sectional research, Bryman (2012) suggested that reliability and measurement validity of cross-sectional findings primarily relate to the measures used to generate the findings. In the case of this study, which used mixed methods specifically for the purpose of addressing the different research questions, it is therefore necessary to briefly examine the instruments.

In respect of the quantitative data, the NAPLAN marking rubric was used. This instrument is used to assess the writing for all Australian students in years 3, 5, 7 and 9, every year, as they sit the NAPLAN test. As such, it presents as an appropriate instrument to use to assess students' writing achievement. Indeed, this was confirmed by a *Cronbach's Alpha* value of .828, which indicated that scores were sufficiently reliable to be used for further analyses. In addition, the study's writing samples were double-blind marked by experienced markers who had served on the NAPLAN writing panel, which built inter-observer consistency (Bryman, 2012).

However, as Michael Evans (2013) has pointed out, reliability in the context of practitioner research in schools refers to the rigour, consistency and trustworthiness of the research. While the NAPLAN marking rubric is rigorous, the writing samples were not produced under consistent conditions in respect of

time. Yet, the degree of trustworthiness, in respect of contextualising the writing samples, is quite strong. Importantly, as Bryman (2012) stressed, cross-sectional comparisons produce associations, not unambiguous causal inferences. Thus, this study's findings provide insight into how SDA is associated with different influences on learning, in the context of students in years 2, 4 and 6 at one independent school in the Northern Territory.

Evans (2013) suggested that the reliability of a study depends on the degree of transparency of research rationale and a researcher's justification of the decisions made. In the case of this study, the aim is to gain insight from multiple perspectives of how a particular form of formative assessment shapes learning.

### **Validity**

The external validity, or degree to which this study's findings are transferrable to other settings (Evans, 2013), is obviously weak, since the study was conducted in only one setting and used purposeful sampling such as cluster and criterion sampling, rather than random sampling (Bryman, 2012).

In respect of whether the study "investigates the issue it purports to investigate", to borrow a phrase (Nunan, 1992, cited in Evans, 2013, p.150), the study's use of multiple instruments and methods to explore associations (Bryman, 2012), rather than causal inferences, lend it some rigour. Nevertheless, as Bryman (2012) pointed out, the internal validity in this cross-sectional study is not as strong as an experimental design in a controlled environment would be.

Another consideration is the potential that students and teachers who participated

in the writing project increased their efforts and therefore generated flawed results, known as the Hawthorne effect (Meyer, Ramirez, & Soysal, 1992). This would further limit the strength of the findings, particularly in respect of any higher achievements in results by the SDA groups. However, as the TDA teachers were aware of the project and explicitly focused on making their students aware of the curriculum learning outcomes, and as both the TDA and the SDA groups knew that they were being measured, it is quite reasonable to assume that the teachers and students in both groups applied themselves more than they usually would. As such, the Hawthorne effect is not viewed as posing any significant concern to the study's findings, particularly as the other limitations of the strength of the quasi-experimental findings are clearly articulated.

Evans (2013) put forward compelling reasons to contend that internal validity is strong in a qualitative context. In particular, Evans (2013) along with Creswell (2014) suggest that practitioner research has the advantage of the researcher having long-term involvement with the setting, and therefore the credibility of the findings is enhanced, because the researcher has a deep-seated understanding of the context. With respect to this study, the idea of long-term involvement and a contextualised understanding is certainly applicable. In addition, this study's findings are triangulated in respect of sources of data and methods. To a small degree, there is also triangulation with respect to investigators, as the writing samples were double-blind marked. However, the first two forms of triangulation are more prominent.

Research suggests that the inclusion of different informants to converge perspectives is a powerful form of triangulation (Evans, 2013). In this study, the sampling was purposefully designed to include both student perspectives from each class, as well as teacher perspectives. With respect to the students, these perspectives were articulated in interviews with a boy and a girl from each class of the participating year levels. Thus, the student perspectives included different ages, different genders and different classes with different teachers. The oral format meant that students were not hindered to express their views from a lack of reading and writing skills, which potentially would have presented a problem in respect of written surveys.

Similarly, the teacher views included perspectives from female teachers and male teachers who all taught in years 2, 4 or 6. In addition, although it was not a sampling priority, the teachers differed in respect of teaching experience. Creswell (2014) emphasises that internal validity is enhanced when the researcher includes negative or discrepant information that runs counter to the themes. In respect of this study, several examples of contradictions in the findings are included in the next three chapters, which discuss the thematic findings. In particular, these discrepancies tend to be exemplified in the discussion by articulating that one source or instrument indicated a certain finding; for example, with respect to why students chose to write a type of text, but that another source or instrument contradicted this. In fact, this study deliberately sought such discrepancies by employing mixed methods to gain a nuanced, complex understanding of multiple perspectives.

In regard to triangulation of methods, Evans (2013) along with Bryman (2012) and Creswell (2014) explain how different research instruments used to collect data from the same participants in relation to the research questions enhance validity. As explained earlier in this chapter, and as illustrated in Figure 4.2, each of this study's sub-questions was investigated using a number of complementary methods.

Finally, Creswell (2014) suggests that validity is enhanced by the researcher providing clarity through self-reflection, which prompts me to round up this chapter by some personal reflective commentary about how these issues have impacted on my thinking and attitudes.

#### *My pragmatist ponderings*

From the very beginning of developing my thoughts and designing this study, I have wanted to test whether my own 'teacher's gut feeling'—that students learn better and are more engaged when they are involved in setting goals—could in fact be confirmed. For me, who grew up in a country where practically everyone is an engineer, this meant numbers. However, Sweden is also the Country of Consensus, which has contributed the word 'ombudsman' to the English vocabulary, so part of my world view, to borrow a phrase from Creswell (2014), is that everyone's voice should be heard, even if it is just through a representative. This has clearly influenced this study's sampling. In my opinion, educational research should not just include the perspective of teachers; unless understandings are also sought from students, a vital ingredient is missing.

Returning to my desire to include both narrative data and numeric analysis, I was quite surprised to learn that some scholars have a skeptical attitude towards pragmatism and mixed methods. Thankfully, these ‘paradigm wars’ now seem resolved, and people see the sense in using a nuanced approach that is fit for its purpose.

In fact, in the current political climate of school improvement, mixed methods used to investigate and contribute to evidence-based practice seem like the perfect blend of rich, contextualised understandings from individuals and numbers to indicate less subjective patterns. It is with this aim that this thesis now shifts its focus from articulating *how* these understandings came to be generated, to illuminate *what* the study actually found. The next three chapters discuss the thematically organised findings. The discussion consistently alternates between the qualitative and quantitative findings to synthesise a nuanced understanding of how SDA shapes learning.

#### *Next chapter*

The next chapter, Chapter 5, discusses how SDA fosters students’ creative thinking. This chapter is based on one of the study’s emerging themes—namely creativity, which refers to innovative, unexpected yet appropriate and high-quality responses to open-ended tasks.



## **Chapter 5: How Student-Directed Assessment fosters creative thinking**

This chapter is the first of three thematic chapters in which the study's findings are described and examined. Qualitative and quantitative data findings relating to creativity are synthesised, as this study seeks a complex understanding of how Student-Directed Assessment (SDA) shapes learning by using a pluralistic focus on the "primary importance of the question asked" (Creswell & Plano Clark, 2011, p.41). In addition, the findings discussed in this chapter relate to the following research questions:

Q. 2: How do students engage in learning, when required to engage in task analysis and strategic planning by identifying sub-goals for their progress towards mastering a specific learning outcome? (Qualitative strand)

Q. 3: How do students choose to demonstrate their learning, when given the choice? (Qualitative strand)

3a: What types of text do students choose to write when given freedom to choose? (Quantitative strand)

3b: What subjective reasons underlie students' choices? (Qualitative strand)

4b: Do results in the writing project vary between SDA and Teacher-Directed Assessment (TDA) students? (Quantitative strand, examined using null and alternative hypotheses for NAPLAN criteria)

This chapter is structured into seven parts. First, is this overview, which introduces the chapter, and outlines the parameters for the qualitative and quantitative findings. A definition of the concept of creativity and an explanation of the relevant NAPLAN criteria then follow.

To allow the qualitative data to reflect the individuality of the participants, first names are used in the quotes. These are pseudonyms, solely used to make the reflections more engaging and personal, and not to in any way identify the participants. The pseudonyms for students' names have been chosen to clearly indicate the student's gender. By contrast, some ambiguous names such as 'Sam', 'Alex', 'Ashley' and 'Robin' are used for the teachers, to avoid identification of the one male teacher.

#### *Parameters of the mixed-methods results*

In line with this thesis's adoption of a social cognitive framework of triadic reciprocity among individual, social and behavioural factors (Bandura, 1986), themes were identified in the qualitative analysis and organised into the triadic framework. The codes included intrapersonal factors, such as emotions, self, creativity, cognitive considerations, and efficacy. Social factors such as social considerations and value judgements were also identified among the ten topics, as

well as behaviours in the form of descriptive references to teaching and learning; assessment practices; and accounts of teachers' and students' approach to the SDA project. The quantitative findings discussed in this chapter refer to the NAPLAN marking criteria of *Audience, Ideas, and Character and Setting*.

### **Background and definition of creativity**

As stated in Chapter 3, the concept of creativity has been defined by Amabile (1983) as a product or an approach that is “both a novel and appropriate, useful, correct, or valuable response” to a task without a clear and readily identifiable path to solution (Amabile, 1983, p. 360). For a task to be considered creative, it needs to be of a heuristic nature. “If the path to solution is clear and straightforward, the task is an algorithmic one, and responses to it simply cannot be considered creative” (Amabile, 1996, p.133). In respect of the SDA approach, it is therefore necessary to first establish whether or not the students' task of directing their assessment was heuristic in nature.

When the SDA writing projects were introduced in the classes, students were encouraged to think of how to showcase their writings. They were told that they would be assessed on their written work, but that they might wish to showcase the final work in ways other than as written pages. Mirroring the forethought stage in the Self-Regulated Learning (SRL) cycle (Zimmerman, 2000), the SDA process commenced with students identifying what learning outcomes and expectations the syllabus stipulated for their year level in the given subject. In relation to social cognitive theory, this process thus required students to individually reciprocate with

external factors. As discussed in Chapter 2, this thesis classifies the syllabus as a macro factor within the environmental and situational domain of triadic reciprocity. Other social and situational factors also influenced this phase, as the SDA process was framed by the particular classroom context. In line with the idea of triadic reciprocity (Bandura, 2006), social support was given to the students in the forethought phase, which involved task analysis and strategic planning (Zimmerman, 2000), in which teachers used dialogue to scaffold and support the students.

While this initial SDA step was an interpretive task that involved the students' cognitive engagement (Appleton, et al., 2006; Reeve, 2012), it was not explicitly creative in nature, nor was it necessarily a novel task. Yet, the students' guided interpretation of the learning requirements was clearly not straightforward and readily identifiable, to echo Amabile's (1983) definition. It was a complex and challenging task, with room for creative expression (Sternberg & Lubart, 1992), and it required students to actively choose and direct their learning path. This required a transactional form of collaboration between the student and teacher (Reeve, 2013), which entailed reciprocal support in the form of prompting and feedback.

Returning to Amabile's stipulation that a creative task must be of a heuristic nature (Amabile, 1996); this thesis's stance is that the student's task of interpreting the learning outcomes is highly complex. It is a task that requires students to engage in analytical and critical thinking, which long since has been established as being of a significantly higher order than simple algorithmic *knowledge* tasks (Bloom, 1984; Krathwohl, 2002; Krathwohl, Bloom, & Masia, 1964).

In addition, the SDA process involved another heuristic task: after the identification phase, students were required to *apply* their interpretation of what the learning outcomes required them to demonstrate as they directed their assessment. This, in turn, allowed students to provide novel, appropriate and useful responses, which constitutes the very definition of creativity (Amabile, 1983; Kaufman & Sternberg, 2010; Plucker, et al., 2004; Sternberg, 2003; Sternberg & Lubart, 1992).

This interpretive element of the SDA process forms a poignant link to the notion of Creative Metacognition (CMC), which recently has been explored by Kaufman and Beghetto (2013). CMC is essentially Metacognition in the SRL sense, applied to a creative situation. It combines intrapersonal factors, such as creative self-knowledge, with contextual knowledge such as knowing when, where, how and why to be creative. CMC therefore also relates to situational factors. It encompasses metacognitive traits such as self-reflection, self-regulation and self-monitoring by requiring students to combine “knowledge about [a] specific context and tasks that will help inform when, where, and why it may be beneficial to be creative; knowledge of strategies for how to be creative in particular domains and contexts; and knowledge about oneself” (Kaufman & Beghetto, 2013, p. 160).

These three considerations all featured, to varying degrees, in the SDA project. Students considered the specific context by considering how they would demonstrate their ability to meet the learning outcomes, to engage their identified audience. Students identified strategies for how to be creative. This involved students determining how to showcase their work, and listing strategies to keep in

mind and monitor their learning against during the performance phase (Zimmerman, 2000) as they developed their writing sample. Domains for creativity were arguably a consideration for students, as they determined what type of text they would write.

Last but not least, students' knowledge about themselves as learners was essential in the SDA process, as it is underpinned by the agentic engagement (Reeve & Tseng, 2011) which students exercise when they drive their learning forward by directing the learning and assessment process.

## **AUDIENCE**

The students' choices of intended audiences for their writing, is an important consideration for a number of reasons. First, it relates to one of this study's focus questions, namely how students engage in learning, when required to identify and engage in task analysis and strategic planning by identifying sub-goals for their progress towards mastering a specific learning outcome. Identifying an intended audience was a significant aspect of the forethought phase of the learning cycle, in respect of task analysis and strategic planning.

Also, writing for the purpose of engaging a particular audience was a key aspect of the SDA approach. As one of the three categories of learning outcomes within the writing strand of the Northern Territory curriculum (Northern Territory Department of Education and Children's Services, 2009b), the SDA planning template was designed to prompt students to reflect on the intended audience for their writing project. When the writing projects were introduced in the different classes, both the

respective class teacher and I encouraged a class discussion about ways to evoke interest and tailor writing to particular audiences. Students then had to identify an intended audience on their planning template, which included suggestions of different audiences such as *children, teenagers, parents, teachers, people in Darwin* and *people in power*. In addition, students were given the option of nominating 'other'. Some students chose not to indicate an intended audience, while others identified more than one audience. The majority of students in the three year levels chose 'children' as their intended audience.

When asked in the interviews, several students explained that they had chosen children as their audience because they wanted their peers to read their writing. This choice suggests that the students were intrinsically motivated to develop writing which they perceived would engage this authentic audience (Vansteenkiste, et al., 2010), which in turn suggests emotional engagement (Fredricks, et al., 2004). It also implies that students chose their audience in an autonomous manner, by acting out of interest from their interest, and as an expression of themselves (Deci & Ryan, 2002; Vansteenkiste, et al., 2010). The table below illustrates the SDA students' intended audiences, as identified on the students' planning templates.

Table 5.1: Intended audiences identified in the SDA students' planning templates

INTENDED AUDIENCE	Year groups		
	Year 2 (n = 39)	Year 4 (n = 51)	Year 6 (n = 59)
Children	46%	45.1%	39%
Teenagers	12.8%	5.9%	13.5%
Parents	20.5%	5.9%	3.4%
Teachers	12.8%	15.7%	3.4%
People in Darwin	0%	5.9%	11.9%
People in power	0%	0%	0%
Other	'Friends' (2.6%) 'Grandmother' (2.6%) 'Sister' (2.6%)	'Everyone' (2%) 'Family' (2%) 'Puppy lovers' (2%) 'Professional groups' (7.8%) 'Soccer [fans/trainers]' (2%) 'Students in Yr. 4' (5.9%)	'All adults' (1.7%) 'Anyone' (5.1%) 'Anyone, but not young children' (1.7%) 'Children in Yr. 6' (1.7%) 'Everyone' (8.5%) 'People' (1.7%) 'People in Australia' (1.7%) 'Tweens' (6.8%)

From a cognitive perspective, the students' choices of audiences reflect the constructive nature of the learning process, which is stimulated when what is being learned is relevant and meaningful to the learner, and the learner is actively involved in creating his or her knowledge and understanding by connecting the new learning with prior knowledge and experience (Lambert & McCombs, 1998). The students' active involvement prompts their cognitive engagement by requiring the student to strategically consider their audience, which influences the learning process (Reeve, 2012). By allowing the assessment process to be used in this constructive manner, as a learning process, the connection between prior knowledge and new learning goals is facilitated for the student (Earl, 2003, 2006, 2011).

*Strategic plans to engage a target audience*

The SDA project required students to identify their overall learning goals as well as the intended audience they wanted to engage with in their writing. The following are two extracts from a Year 6 student's planning template, illustrating how the student has made strategic, cognitive connections (Reeve, 2012) between the learning outcome for engaging an audience (which was stated on the student's planning template) and his interpretation of what this outcome requires. Under the heading 'How will I show that I can write for a purpose?' the student identifies the chosen criteria for audience and strategies:

Simple language. Teach them a lesson never to lie. Exciting voices. Fantasy.  
Animal Characters.

Keep the Audience entertained. Get characters to talk to audience. Get audience to do stuff.

*Leon, Year 6 SDA group, whose planning template identified 'play' for 'children aged 3 to 6' as the intended text and audience.*

The precision in Leon's choices above indicate Leon's cognitive engagement (Appleton, et al., 2006; Reeve, 2012) during the forethought stage (Zimmerman, 2008a), as he deliberately planned to use particular strategies to achieve his stated goal of engaging an audience of children aged 3 to 6. In relation to the NAPLAN marking criteria, Leon's intention to "teach them a lesson" by including a moral of the story is a direct indication of his understanding that he is writing for a purpose. Furthermore, Leon's deliberate choice of animal characters with "exciting voices",

aimed to interact with the audience, indicates the *skill* and *will* to make sophisticated language choices (Weinstein, et al., 2000; Weinstein, 1994).

The play script itself, featuring a *narrator*, *Gary Goose*, *Mr Unicorn*, *Willy Wombat*, *Ms Sheep* and other characters is essentially an adventure quest. The masked villain, *Foxy Poxy*, of the *Bigy Wigy (sic) Mountains* has stolen Ms Cow's "*special blue rock*". With the help of the lizard, *King Tangona*, whom the animal characters meet in his giant palace garden on the way to the mountains, the masked perpetrator is eventually caught. Once caught, Foxy Poxy confesses that he stole the special rock because it was the last he needed to complete his rock collection. He feigns regret by agreeing: "*You're right, I shouldn't steal things just because I want them,*" before snatching it back and disappearing into the woods. Eventually the rock is finally returned to Ms Cow who "*never took her rock out of her pocket again*".

Leon's writing sample was marked by the class teacher and two trained NAPLAN markers, who all found that Leon had successfully carried out his deliberate intention and explicitly stated goal: to engage his target audience of young children.

Being aware of the intended audience was also raised in the student interviews. Here, both the issue of becoming motivated as a creative writer because of the audience, as well as the audience becoming motivated to engage with the written text, was communicated. In addition, a clear link between being able to engage an audience and one's skills as a writer was made by students, as illustrated in the quote below from Jeremy. It is noteworthy how he described the use of creative ideas to engage

the reader as an important writing skill:

Anna: How do you judge if you are a good writer or not?

Frances: Well, ... by the punctuation, spelling and....

Anna: What about you, Jeremy?

Jeremy: Well, if you're a good writer you can really engage the audience. You can really engage the people who are reading, and make them want to keep reading to find out what's happening. That's what I like.

Anna: And do you find that you can read text even if it isn't perfect in spelling and punctuation? Do you still get engaged as a reader?

Jeremy: Yes, if it is a good story. If it's *Harry Potter* and it has a few spelling mistakes and a few punctuation mistakes, I would still like to read it.

*Follow-up interview with Year 6 SDA students, Frances and Jeremy, October, 2009*

A large proportion of students across the three year levels chose audiences of a similar age group as themselves, which resulted in both subject matter and ways of presenting that struck the teachers as both novel and appropriate:

Most of the students prepared and presented wonderful writing projects. The projects that were outstanding were the ones where the students took time to prepare their writing projects: e.g. [Joe] and [Jack] with their video on how to prepare for a Nerf war; [Tilly] and [Georgia] with their scrap books [fictional recounts]; and [Sarah] with a PowerPoint presentation.

[James], [Dylan] and [Zach] did a puppet show. [Claire] wrote an excellent story and presented it on a website. [...]

[Lucy] did the baking (procedure) in front of the class, and the students could bake their own chocolate cake, which they clearly enjoyed.

*Follow-up email with Monica, Year 6 teacher, December, 2009*

The account from Monica, above, describes the students' creative and innovative choices for showcasing their work. It also indicates the students' willingness to exert effort, which is associated with well-developed self-efficacy (Bandura, 1997, 2012), self-regulation (Perry & Rahim, 2011; Weinstein, Acee, & Jung, 2011), and with creativity and intrinsic motivation (Eccles & Wigfield, 2002; Hennessey, 2010). In this case, it seems that the SDA students were clearly aware of their intended audience from the forethought phase in which they identified their audience, through to when they shared their work with an authentic audience. Keeping the audience in mind prompted the students' cognitive engagement as they strategically planned and developed their work; and their emotional engagement with respect to caring about how their work may be received by their audience, which in turn prompted creativity, motivation and effort to persist with their work.

#### *Statistical results in the Audience criteria*

The quantitative analysis of the students' writing samples were, as explained in Chapter 4, based entirely on the writing samples which were double-blind marked using the NAPLAN (2008) marking rubric (Appendix K).

A comparison of means, standard deviations and effect sizes were used to compare the quantitative differences in the Year 4 and Year 6 students. In Year 4, the effect size of the post-test *Audience* scores compared to the pre-test *Audience* scores indicated a moderate effect of progression in both the SDA and the TDA groups. In fact, the Year 4 TDA group's scores showed a stronger effect of progression compared to the SDA group (see table 5.3).

By contrast, effect size of the difference between the Year 6 students' post-test *Audience* scores compared to the pre-test scores, varied significantly between the SDA and the TDA groups. The SDA groups showed a moderate to small effect size (Cohen, 1988) of progression from the pre-test to the post-test ( $d = .43$ ).

Conversely, the comparison between the post-test and the pre-test *Audience* scores of the Year 6 TDA group showed a small to moderate negative effect. This finding indicates that the Year 6 SDA group demonstrated a greater degree of progress in the *Audience* criteria, compared to the TDA group. The Year 6 SDA students' mean post-test scores suggest that Narrative devices such as humour, suspense and genre-styles were more developed in the Year 6 SDA group's writing samples, compared to the Year 6 TDA samples, which resulted in higher scores in the marking rubric.

*Table 5.2: Difference between SDA and TDA students' pre-test and post-test Audience scores*

		<u>SDA</u>		<u>TDA</u>		
NAPLAN CRITERIA		Mean	SD	Mean	SD	<i>d</i>
Yr. 4	Audience (pre-test)	2.53	.51	2.59	.63	-.11
	Audience (post-test)	2.78	.64	3.01	.79	-.32
Yr. 6	Audience (pre-test)	3.13	.81	3.00	.69	.17
	Audience (post-test)	3.54	1.06	2.74	1.03	.77

Notes.  
Year 4 SDA (n = 40), Year 4 TDA (n =29)  
Year 6 SDA (n = 76), Year 6 TDA (n = 84)

*Table 5.3: Difference from pre-test to post-test in students' Audience scores*

		<u>Post-test</u>		<u>Pre-test</u>		
NAPLAN CRITERIA		Mean	SD	Mean	SD	<i>d</i>
Yr. 4	Audience (SDA)	2.78	.64	2.53	.51	.43
	Audience (TDA)	3.01	.79	2.59	.63	.58
Yr. 6	Audience (SDA)	3.54	1.06	3.13	.81	.43
	Audience (TDA)	2.74	1.03	3.00	.69	-.30

Notes.  
Year 4 SDA (n = 40), Year 4 TDA (n =29)  
Year 6 SDA (n = 76), Year 6 TDA (n = 84)

A number of reasons may explain why the greatest differences were found among the older students. First, the ability to write with a target audience in mind may require a level of abstract thinking, which increases with age (Andreassen & Waters, 1989; Dignath & Büttner, 2008; Piaget, 2008). Jean Piaget's construct of cognitive development indicates that children from 7 to 8 years of age are "capable of certain logical reasoning processes but only to the extent of applying particular operations to concrete objects or events in the immediate present" (Piaget, 2008, p. 42, reprint

of original article published in 1972). Further, Piaget argued that within this *concrete operational stage*, children make important conquests, from a social point of view, and are able to adopt the point of view another person holds. However, older students, aged 12 years and above, who have developed their cognitive abilities further, and reason within the *formal operational stage* (Piaget, 2008), have a greater ability to think in abstract terms.

In respect of the *Audience* criteria, this may explain the Year 6 SDA students' greater ability to direct their learning in respect to engaging an audience compared to their peers in Year 4, where the TDA group showed greater progress, compared to the SDA group. However, it does not account for the differences in Year 6 between the SDA students and TDA students. Yet, given Piaget's suggestion that hypothetical reasoning is possible for students in the concrete operational stage, but dependent on concrete applications such as objects or content, the SDA process may hold the key. It is, after all, a process, which involves the concrete selection of a suggested audience. It involves the student in explicitly identifying strategies to engage their intended audience. Possibly, this helps students gain a concrete awareness of the intended audience.

Drawing from another highly influential theorist in the pedagogical field, Vygotsky, who emphasised the social construction of knowledge, the fact that students identify a target audience may be key to the higher development of skills among the SDA students. Vygotsky (1978) argued that "every function in the child's cultural development appears twice: [...] first, *between people (interpsychological)*, and then

*inside the child (intrapsychological)*” (Vygotsky, 1978, p. 57, emphasis in original).

This idea is strikingly similar to Bandura’s notion that human functioning is influenced by the dynamic interplay of individual factors such as a person’s cognition; social and environmental factors; and behaviour. However, Bandura has argued that these forces are not equal nor static. Nor, unlike Vygotsky, does Bandura assume an order of how these factors affect one another. Rather, he argued that the influences fluctuate in different situations and at different times.

When applied to the SDA context, the differences between the Year 4 and Year 6 students, and their respective SDA and TDA groups, may therefore be due to individual factors, social factors and behavioural factors. Again, the use of mixed methods is helpful in casting light on this particular finding because interviews with the Year 4 SDA teachers revealed an important behavioural factor, which in turn is likely to have affected the situation as well as the individual student’s choices.

Two of the Year 4 SDA teachers reflected in their follow-up interviews that if they did the project again, they would take greater care with the timing. One of these teachers said the project had been rushed, due to time restrictions. Similarly, the other teacher thought that doing the project at the end of the term had not given it the focus it needed. By contrast, accounts from the Year 6 SDA teachers suggested that while the project had taken longer than they anticipated when they planned it, they used the planning phase in a formative sense to inform their teaching, and consequently allowed more time for the project. Such behavioural factors appear to

be a more likely explanation for the differences in statistically significant findings between the year groups in the quantitative analysis.

*Similarities and differences among the three year groups*

Returning to the research questions: ‘How does Student-Directed Assessment shape learning?’ and 3b: ‘What subjective reasons underlie students’ choices?’, a number of similarities became apparent when comparing the students’ responses to the SDA task in respect of the *Audience* criteria.

Students from all year levels were clearly able to identify an intended audience, as indicated by the planning templates. Teacher responses indicate that they were surprised that even the Year 2 students were able to identify and write for an intended audience. Indeed, students’ awareness and intention to write to a specific audience, in line with cognitive, emotional and agentic engagement theories (Appleton, et al., 2006; Reeve, 2012; Reeve & Tseng, 2011), led to the task being perceived by the students as meaningful and purposeful.

Echoing Bandura (1977) and Vygotsky (1978), this thesis posits that by prompting students to identify and target their writing for an intended audience, the scaffolded SDA process is a reciprocal activity, which spurs on students’ learning by increasing the complexity of using assessment as a learning activity.

It is noteworthy that the majority of students in all three year levels predominantly chose ‘children’ as their intended audience. This may be another reflection of the students predominantly being in the ages consistent with a concrete operational level

of cognitive development (Piaget, 2008). It may also reflect the dynamics of the social context, which Bandura (1977, 1986) and Vygotsky (1978) emphasise.

This chapter's exploration of how SDA fosters students' creative thinking now turns to the second of the creative aspects, highlighted in the NAPLAN marking criteria:

*Ideas.*

## **IDEAS**

The term 'idea' is very broad, so this section will first identify the specific aspects which pertain to the SDA project. First and foremost, the very reason for calling this section 'Ideas' is that it is the term used in the NAPLAN marking rubric. The *Ideas* category in the NAPLAN is framed by a clear skill focus: "The creation, selection and crafting of ideas for a narrative" (MCEETYA, 2008b, p. 8, Appendix K).

From the NAPLAN skill focus, two interpretations of ideas are possible. Given the explicit mentioning of the text type *narrative* in the skill focus, ideas could be defined as "the conception of a standard to be aimed at; the plan or design according to which something is created or constructed" (Shorter Oxford English Dictionary, 2007, p. 1318). By applying this definition, the ideas in the writing sample would be judged against the traditional form of a narrative, with a beginning, complication and resolution (Eather, 2006; MCEETYA, 2008b).

A second definition poses a different perspective by defining idea as "something imagined; a conception having no basis in reality[,] [...] a picture or notion of anything conceived in the mind" (Shorter Oxford English Dictionary, 2007, p. 1318).

If this definition is applied, the marking criteria are set out to judge the imaginary aspects of the written text.

The NAPLAN marking rubric ranges from nil to 5. Nil indicates “no evidence or insufficient evidence”; for example, by using “symbols or drawing” (MCEETYA, 2008b, p. 8). For a mark of 1, “ideas are very few and very simple [and/or] ideas appear unrelated” (p. 8). At the highest level, “ideas are generated, selected and crafted to explore a recognizable theme [and/or] ideas are skillfully used in the service of the storyline” (p. 8). Additional indicators at the highest level suggest “ideas may include: psychological subjects, unexpected topics, mature viewpoints, elements of popular culture, satirical perspectives, extended metaphor, traditional sub-genre subjects [such as] heroic quest, whodunit, good vs evil [or] overcoming the odds” (MCEETYA, 2008b, p. 8).

Returning to the Oxford Dictionary definitions cited above, the NAPLAN marking criteria draws predominantly on the first definition, by alluding to ideas in the context of ideal forms, with reference to specific genres and literary themes. However, the second definition, if interpreted as an expression of imagination and creativity, is also a factor in the judgement of ideas expressed in the writing sample.

The *Ideas* tangent explored here uses themes of ideas which are suggested in the NAPLAN rubric (NAPLAN 2008) to inform this study, in respect of how SDA shapes learning, and how students engage in learning, when required to identify and engage in task analysis and strategic planning by identifying sub-goals for their progress towards mastering a specific learning outcome. Using the cue from the

rubric that *ideas may include psychological subjects*, three core psychological themes are explored in this chapter: the *self*, *identity*, and *emotions*. These themes emerged from the qualitative data both as subject matter in the writing samples and as motivating factors for choosing a particular form of expression.

### *The self*

Tarricone (2011), in *The taxonomy of metacognition*, argued that: “Self-knowledge can only be developed through a purposeful reflection of the self, without which we could not develop an understanding of the world around us, and our place in it” (p. 44). As such, she posited that the interaction between metacognition and reflection is dependent upon a person’s self-knowledge, which is a pertinent argument in a thesis centred on students’ reflection and metacognitive engagement in directing assessment. Furthermore, Bandura has contended that a person’s perception of their self is constructed through their experiences with the environment (Bandura, 2006). For example, different classroom contexts have been found to shape students’ identities and involvement of their selves (Pollard and Filer, 1999, cited in Earl & Katz, 2008).

In the SDA project, the representation of the students themselves reflected their experiences with the environment (Bandura, 2006), which was illustrated by their choice of subject matter for both recounts (sequential texts that re-tell past events of experiences in the order they happened) and reports. For example, students in Year 2 commonly wrote about sporting activities in which they had participated. The writer in the text sample below recounts the weekend’s basketball match, which his team

lost by ten points, which in turn suggests a performance-focused self theory (Dweck, 2000). Taking a keen interest in the wins and losses of his basketball league, the writer comforts himself that his team still “*did really good because [the opponents were] one of the best teams*”.

He continues:

I wish I play for anset [sic] because they won the grand finals without losing a match and they havnt [sic] lost any matches this term. My team have only lost four times and have only won once.

*Writing sample by Andrew, Year 2 SDA student*

While the ideas expressed in Andrew’s recount are simple, they nevertheless relate coherently to a central theme. With respect to self-representation, Andrew expresses his individual desire to be part of a winning team in the basketball league. Yet, his ideas clearly express a degree of complexity in his self-understanding, as he expresses a connection with his own losing team, which has “*only lost four times*”. As such, his simple recount suggests a theme of conflict in self-representation; Andrew’s desire to be part of a winning team and the attachment, perhaps even pride, in the modest achievements of his own team.

A different aspect of self-understanding emerged among the Year 2 students as they were asked to reflect on themselves as writers. Particularly in the interviews, students frequently came to mention ‘imagination’ as a key part of their skills and features as a writer.

I think that I'm a good writer. Because I've got a wide imagination.

*Interview with Isaac, Year 2 TDA student, October, 2009*

The chance to use one's imagination was seen by students as both challenging and rewarding. This, in turn, indicates a creative component to their agentic engagement (Reeve & Tseng, 2011), as students used their imagination and ideas to constructively contribute to the learning process:

Anna: How did you find the whole writing experience?

Clive: It was kind of tricky and fun. The tricky bit was that you had to think of your own story. And the fun bit was that you've got to make a problem and how they, like, solve it and what's the beginning and so on. So, yes, that was fun about it.

*Follow-up interview with Clive, Year 2 SDA student, October, 2009*

In fact, imagination was one of the most prominent themes emerging from the qualitative data from all student groups, having commonly been mentioned in the questionnaires and self-reflection comments on the planning templates. This indicates that the SDA approach prompted students to reflect on their learning and the role of themselves as a learner in an autonomous fashion, 'autonomy', being a central tenet of self-determination theory (Deci & Ryan, 1985). Autonomy concerns acting from one's interest and integrated values. When autonomous, students' goals and actions are motivated by their own sense of volition and thus an experience of choice (Reeve, 2011; Reeve, et al., 2003).

*Imagination to develop meaning*

Imagination has long been regarded as an active and conscious component of the process of meaning-making (Ayman-Nolley, 1992; Gajdamaschko, 2005). For example, it is striking how the theories of Vygotsky, who passed away in 1934, continue to generate debate and influence pedagogy. In line with Vygotsky's sociocultural explorations of imagination, Natalia Gajdamaschko (2005), posited that the education discourse of 'best practice' in respect of intellectual and social development of students in schooling contexts, as well as the debate of how to best engage and motivate students in their learning, lacks a "substantiated discussion of imagination [which] is regrettable" (p.14). Writing in a North American context of developing an alternative approach to curriculum and instruction in middle school, Gajdamaschko (2005) makes a case for how Vygotsky's theories of imagination as a cognitive tool of development needs to be explored further. This thesis concurs with Gajdamaschko (2005) with respect to considering imagination as an important part of creative higher-order thinking, which schools need to foster. Furthermore, this thesis posits that alternative approaches such as the SDA hold the potential to develop students' cognitive, emotional, creative and agentic engagement in their learning.

In his papers on creativity and imagination, Vygotsky distinguished between two forms of activity. The first is closely linked to memory and referred to as *reproductive* activity, defined as "a person's reproducing or repeating previously developed and mastered behavioral patterns or resurrecting traces of earlier impressions" (Vygotsky, 2004, p. 7). The second, more elaborate type of activity

uses imagination in a creative activity to elaborate beyond “the reproduction of previously experienced impressions or actions but in the creation of new images or actions” (Vygotsky, 2004, p. 9). This idea bears a strong resemblance to creativity being a novel and appropriate response to a task (Amabile, 1983; Kaufman & Sternberg, 2010).

Vygotsky also explored associations between imagination and the emotions a person experiences in reality. He argued that people “select impressions, thoughts, and images that resonate with the mood” that possesses them at that particular moment (Vygotsky, 2004, p. 17-18). Such association between imagination and emotions was evident in the SDA project, particularly in regard to the older students, who frequently chose to write about subject matters of an emotional nature (discussed later in this chapter).

Returning to the original premise, imagination as an active component of meaning-making (Ayman-Nolley, 1992; Gajdamaschko, 2005; Vygotsky, 1998, 2004), findings from the SDA study suggest that students indeed used imagination in precisely this manner. By explicitly and highly consciously nominating imagination as a key component when evaluating their own achievement in the self-reflection phase of the SDA cycle, imagination appeared to be a key part of the students’ conscious, transformative thinking.

In the context of the SDA approach, this meaning-making was scaffolded by the teachers and framed by the planning template, aiding the students in their

metacognitive process of monitoring understanding, organising ideas and checking for consistency (Costa, 1996 cited in Earl, 2006). By connecting the success criteria with the assessment task by placing the student in the centre as an agentially engaged co-developer in the assessment process (Reeve, 2013; Reeve & Tseng, 2011), the SDA process echoes Earl's emphasis on the student as a "critical connector" between the assessment and learning process (Earl, 2003, 2006).

In respect of the development of written ideas, the students evidently associated imagination with being an essential component of both writing and their ability to demonstrate success in meeting the required learning criteria. Below is a segment from the questionnaire, which students filled out after they had completed the SDA project:

*When do you think that you learn better; when you choose the task or when the teacher chooses the task? (Try to explain why.)*

When I choose because I can choose what type of story and [it] opens up my imagination and takes me to a new world.

*Questionnaire response from Year 4 girl in SDA group*

The students' regard for imagination at the core of creative writing is supported by research literature. For example, a recent study into consensual agreement of creative writing factors among scholarly experts ranked imagination as a critical factor in supporting creative writing, along with factors such as generation of description, intrinsic motivation and perseverance (Barbot, Tan, Randi, Santa-Donato, & Grigorenko, 2012). Another indication of the importance that students

attributed to imagination was the large proportion (68%) of fictional texts, compared to the proportion of factual texts produced by students in the SDA groups. The students' writing repertoire is discussed in more detail, later in this chapter.

### *Identity*

Erik Erikson argued that adolescents develop their identity by exploring key questions such as: 'Who am I?' 'What signifies me?' (Erikson, 1950, 1968). In respect of the present study, two tangents of identity emerged. In respect of the students, identity exploration appeared as a sub-genre in the form of 'tween' literature. The term 'tween' refers to the pre-pubescent years between childhood and the teenage years, when young adolescents reject childlike associations and aspire to be more like a teen (de Mesa, 2005). In developmental psychology terms, this rejection of childlike identity and search for alternatives is referred to as the *moratorium* stage of identity formation (Archer, 1982; Erikson, 1968; Santrock, 2010). The aspiration of tweens to evolve their teenage identity has been widely acknowledged by marketing agencies on behalf of retail organisations, which have identified tweens as a lucrative target group (de Mesa, 2005). The tween writing samples were predominantly written by girls, bearing titles such as 'Little rich girl' and 'Adventure in New York'.

Frequently, the writers of tween texts chose to showcase their work in the form of scrapbooks. While the use of a scrapbook in itself may seem like a creative way of showcasing work, it provokes the question of whether scrapbooking is another example of the craft-centred marketing for tweens, such as 'Paint Your Own Pottery'

and 'Build-A-Bear', both mentioned in a *BusinessWeek* article about tween marketing (de Mesa, 2005).

It is noteworthy that scrapbooks were only used by students in Year 6 and tended to showcase two categories of writing samples. One of the scrapbook categories consisted of fictional recounts, which mimicked the format of a diary, but in which the main character was in her upper teens working as a fashion model. In respect of *Ideas* in the NAPLAN marking criteria, these writing samples generally scored quite low, in most cases with a score of 2, indicating that ideas were predictable and not particularly elaborated. Nevertheless, the students' choice of text type and showcasing of their work clearly reflected their values and enthusiasm for a subject that they perceived relevant and engaging. To this end, these choices indicated autonomy (Reeve, 2011) and emotional engagement (Fredricks et al., 2004).

The second form of scrapbook usage was exemplified by a girl who wrote a detailed recount of her extended trip to her father's country of birth. As an expression of the idea of identity, the text dealt with the girl's impressions of her family's journey to Switzerland, illustrated by a large number of photographs of family members and places of interest. As such, the scrapbook reflected her exploration of identity which, in developmental terms, was at an earlier stage than the students whose samples were of the tween genre. This student's expression of identity reflected her acceptance of values and expectations of her family. In fact, her scrapbook demonstrated a sense of pride, belonging and joy in learning about her cultural

heritage, suggesting an identity status in the *foreclosure* stage, in which the values of significant others are accepted without consideration of alternatives (Archer, 1982).

From a social cognitive perspective, these choices illustrate the importance of intrapersonal factors, when students exercise agentic engagement (Reeve, 2013; Reeve & Tseng, 2011) as part of their learning process. This, in turn, probably increased the students' intrinsic motivation. One of the SDA class teachers summarised the experience of guiding students in the writing process:

Elle: I felt that they understood what they were writing it for.

Anna: The audience aspect?

Elle: The audience aspect, yes. And its... They didn't just show me that they understood the structural 'how to do it'. It wasn't so mechanical. It was more... they just gripped on to it. It was like, Right, there is a meaning for this, I know whom I'm writing it to, and for; and why I'm writing it. So I'm going to do the best I can do.

*Follow-up interview with Elle, Year 6 SDA teacher, December, 2009*

This quote from Elle reflects how she perceived that students in the SDA group clearly used assessment as a learning process by connecting the learning outcomes with a meaningful and authentic learning experience (Black, et al., 2003; Earl, 2003, 2006; Wiggins & McTighe, 2005).

In addition, the quote from Elle reveals how she noticed that the SDA process contributed to students' becoming motivated to engage in learning and

demonstrating personal commitment to the task. Such intrinsic motivation has been found to both stimulate achievement and creative performance (Hennessey, 2010; Hennessey & Amabile, 2010).

Identity as a theme also emerged from the teachers' accounts as they reflected on their practice through the course of the project. The teachers were obviously not adolescents, but nevertheless the notion of Erikson's theory about identity exploration bore similarities to how the teachers explored their professional identity by participating in the project. Linking this professional reflection to creativity, teachers began to identify ways of renewing their practice by adopting novel and appropriate, useful and valuable responses (echoing Amabile, 1983) to the task of using assessment as a learning process.

#### *Unexpected topics*

Several examples of both unexpected topics as well as unexpected choices of showcasing work emerged from the SDA project. Applying the freedom in exercising judgement of how to demonstrate their writing ability, students adopted the very definition of creativity by seeing solutions, which were novel and which they perceived as appropriate (Kaufman & Sternberg, 2010). An example of such an unexpected topic is the detailed report of the origins of 'Elvish language', written by a girl in one of the Year 6 SDA classes. Exploring some of the languages developed by J. R. R. Tolkien, the student, who is learning English as a second language, introduces her choice of topic:

I chose 'Elvish' as my topic after watching the movie, 'The Lord of the Rings'. In 'The Lord of the Rings', the Elves speak quite a lot of Elvish. I thought that I could listen carefully and try to understand what they were saying. I wanted to try and write their language. It's really different to our language, English. I found a table of their alphabet. It makes it easier to understand.

My reason for choosing this topic was because I thought it would be interesting to research. I thought that this was my chance to talk about my favourite language. I enjoyed being able to choose my topic. I can't stop reading my own work because I think it's really interesting and I didn't think that I'll do really good and I didn't think that I'll be able to write this much because when I chose to do Elvish, I didn't know that much about it. Now I know quite a few things about Elvish language and J. R. R. Tolkien.

*Extract of attached comments to the self-reflection section on the SDA planning template, from Lisa, Year 6 SDA student, September, 2009*

From the text segment above, it is evident that Lisa used the SDA project as an opportunity to learn about a topic she has a keen interest in (Renninger & Hidi, 2011). Writing about her unusual but highly stimulating topic, Lisa expresses both pride in her work and a degree of surprise in respect of the quantity and quality of her report. This suggests a growing sense of self-efficacy and that Lisa surpassed her own outcome expectations with the task (Bandura, 1997, 2012). Indeed, her report of six typed pages plus additional reference material is quite extensive for a Year 6 student writing in their second language, and it demonstrates significant persistence, effort and enthusiasm for the task.

Unexpected topics and choices for showcasing work was also demonstrated by a group of boys who elected to collaborate on a script for a play, which they performed as a puppet theatre to their peers in Year 6. Again, this is an example of how students in the SDA classes used novel but appropriate ideas to express their creativity in respect of both subject matter and showcasing work. The boys' decision to perform a puppet theatre had not been expected by their class teacher, who expressed both surprise and delight at the idea in a follow-up email to me.

The boys' unconventional approach to showcase their work is testament to their agentic engagement. From a creative perspective, it aligns with the idea of 'thinking outside the box'. Sternberg and Lubart have identified a willingness to take sensible risks, and an aptitude for unconventional ideas, as two features of personality traits which constitute one of the six resources underpinning creativity (Sternberg & Lubart, 1991a, 1991b, 1992). As such, the SDA process appears to have allowed students the opportunity to tap into their creative approaches to developing and exploring ideas in their writing.

#### *Differences in students' progress in the Ideas criteria*

In regard to whether the *Ideas* results in the writing project varied between SDA and TDA students, the statistical analysis revealed that, in contrast to the *Audience* criteria, there was a moderate effect size of difference between the TDA and the SDA students' *Ideas* scores in the post test (see table 5.4)

Table 5.3: Difference between SDA and TDA students' pre-test and post-test scores in Ideas

NAPLAN CRITERIA		SDA		TDA		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Ideas (pre-test)	2.48	.60	2.38	.49	.18
	Ideas (post-test)	2.68	.54	2.36	.61	.56
Yr. 6	Ideas (pre-test)	3.03	.49	2.86	.52	.34
	Ideas (post-test)	3.19	.90	2.74	.94	.49

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

Table 5.4: Difference from pre-test to post-test in students' Ideas scores

NAPLAN CRITERIA		Post-test		Pre-test		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Ideas (SDA)	2.68	.54	2.48	.60	.35
	Ideas (TDA)	2.36	.61	2.38	.49	-.04
Yr. 6	Ideas (SDA)	3.19	.90	3.03	.49	.21
	Ideas (TDA)	2.74	.94	2.86	.52	-.16

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

To illuminate the level of sophistication of ideas in the students' writing, it is helpful to examine what the mean scores indicate. A score of 2, which all groups achieved in both the pre-test and post-tests (see table 5.3 above), suggests that "ideas [were] few, not elaborated or very predictable" (MCEETYA, 2008b, p. 8). The next level, a score of 3 in the NAPLAN *Ideas* rubric, indicates that ideas "show some development or elaboration [and] all ideas relate coherently to the storyline". In the

case of the Year 6 SDA, whose mean post-test score was 3.19, the development of ideas was progressing towards a score of 4, which indicates that “ideas are substantial and elaborated ideas effectively contribute to a central storyline [and] the story contains a suggestion of an underlying theme” (MCEETYA, 2008b, p. 8). This progress is also indicated in the comparison between students’ post-test and pre-test scores (see table 5.4). By contrast, both the Year 4 and Year 6 TDA groups showed a negligible, in fact marginally negative effect size of development between the post-test and pre-test scores. Possibly, this is an indication of documented reluctance teachers have been found to encourage creative ideas in class contexts (Beghetto, 2007, 2010; Chan & Chan, 1999; Scott, 1999), which was discussed in Chapter 3. However, the interviews with the TDA teachers did not indicate this to be the case.

Alternatively, the decline in *Ideas* scores for the Year 6 TDA group may reflect the argument put forward by Urdan and Turner (2005): that it is difficult for teachers to find a balance between promoting autonomy and scaffolding. If so, the SDA approach appears to have fostered students’ development of autonomy and creativity much more effectively.

#### *Implication of Ideas findings*

As stated above, the framework from which *Ideas* have been explored in this study has been limited by the suggestions in the NAPLAN rubric. The qualitative data allowed for a complex understanding to emerge, which implied that the students’ stages of psychological development influenced their choices when directing their assessment. Clearly, the SDA students took the opportunity to explore their writing

repertoire in a creative and deeply meaningful manner. Their choices in showcasing their work and the ideas guiding their selection of subject matter in the writing samples are linked both to psychological literature (Bandura, 2006; Vygotsky, 1978, 2004) and literature on creativity (Amabile, 1983, 1996; Hennessey & Amabile, 2010; Sternberg & Lubart, 1991a, 1991b, 1996).

The third aspect of what is categorised in this thesis as ‘creative criteria’ from the NAPLAN marking rubric is examined next, to build understandings of how the SDA approach shapes students’ learning.

#### **CHARACTER AND SETTING**

The idea of triadic reciprocity (Bandura, 1986) between a student’s intrapersonal factors and the social and situational context, as well as the learning actions taken, provide a sound framework when exploring this third creative criteria.

The written portrayal of character and the creation of a setting which reflects a sense of time, place and atmosphere (MCEETYA, 2008b, p. 9) requires students to apply their intrapersonal understandings and interpretation of creativity through the use of novel, good and relevant ideas (Kaufman & Sternberg, 2010), which requires consideration of the situational context, as well as learning actions taken during the forethought, performance and self-reflection stages of the learning process.

Research suggests that children’s ability to convey thoughts, plans and desires of characters, and connect these with actions, emerge in children’s writing in middle childhood, around 8 to 9 years of age (Bamberg & Damrad-Frye, 1991; Fox, 1991;

Shapiro & Hudson, 1991). More recent research, using methods in which stories were generated voluntarily by preschool children as part of the regular classroom program, found that children as young as age 5 regularly were able to manifest characters in dictated narratives with “representational beliefs, desires, intentions, and emotions that motivate or direct action” (Nicolopoulou & Richner, 2007, p. 425).

The similarities between Ageliki Nicolopoulou and Elizabeth Richner’s study, which involved thirty preschool children in a North American college town, and the SDA study are noteworthy. For example, Nicolopoulou and Richner allowed the children to “choose their own characters, subjects, and plots” (p. 416), mirroring one of the essential components in the SDA process. However, these choices were voluntary for the North American preschool children, just as they were for students in the control group of the present study. By contrast, the SDA students were challenged and scaffolded to explicitly reflect on how to develop the characters, problems and plots in their writing assessment.

Despite the prompting, a relatively small number of students explicitly addressed the *Character and Setting* criteria on their planning templates. One of the students who did was Dieter, in Year 6, whose planning template indicated that he would “use verbs and adverbs for describing” the “feelings of characters” to “grab the audience in reading” his highly developed cold-war narrative, set in the late 1960s London. As he had planned, Dieter’s writing sample reflected a sense of time and place, with passages such as:

On the TV set, BBC was on, showing a story about a new supersonic jet race.

This was followed by:

So far, Britain's airliner, partnered with France, the Concorde, was the most progressive, followed by Tupolev's Tu-144, [sic] and so far US's design, was only a John F Kennedy speech outside the Whitehouse, and some lab designs.

However, unlike Dieter's conscious planning of how he would develop the characters and setting in his writing sample, the majority of the other SDA students provided few details in this respect, instead focusing on the types of problems and resolutions their plots would contain.

#### *Statistical findings for Character and Setting*

A comparison between the SDA and the TDA groups in Year 4 and Year 6 indicated a moderate to strong effect size of difference between the Year 6 SDA and TDA students in the post-tests scores (see table 5.5). This was further evident when comparing growth from the pre-test to the post-test (see table 5.6), which pointed to a large to moderate (Cohen, 1988) effect size of progress in the Year 6 SDA group. By contrast, the test indicated a negative effect of development between the pre-test and the post-test in the Year 6 TDA group. As indicated previously in this chapter, the quantitative data, along with the qualitative data clearly suggests that particularly the Year 6 students produced more highly developed responses in the NAPLAN criteria which here are examined from a point of creativity.

Table 5.5: Difference between SDA and TDA students' pre-test and post-test scores in Character and Setting

	NAPLAN CRITERIA	SDA		TDA		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Character /Setting (pre-test)	1.80	.89	1.97	.68	-.22
	Character /Setting (post-test)	2.05	.78	2.17	.57	-.18
Yr. 6	Character /Setting (pre-test)	2.42	.64	2.43	.54	-.18
	Character /Setting (post-test)	2.91	.78	2.38	.85	.65

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29); Year 6 SDA (n = 76), Year 6 TDA (n = 84)

Table 5.6: Difference from pre-test and post-test in students' Character and Setting scores

	NAPLAN CRITERIA	Post-test		Pre-test		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Character /Setting (SDA)	2.05	.78	1.80	.89	.30
	Character /Setting (TDA)	2.17	.57	1.97	.68	.32
Yr. 6	Character /Setting (SDA)	2.91	.78	2.42	.64	.69
	Character /Setting (TDA)	2.38	.85	2.43	.54	-.07

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

The Year 6 SDA students' higher scores suggest that they used strategies such as attributing thoughts and using descriptions, actions and speech to develop characters in their writing samples (MCEETYA, 2008b). Compared to the Year 6 SDA students, the Year 6 TDA students' portrayal and development of character, as well as a sense of place, was less substantial and lacked the same degree of continuity as the SDA students displayed in their writing.

Thus, the statistical data confirmed the alternative hypothesis that writing samples from the SDA experiment group exhibited a higher mean score in the *Character and Setting* criteria than writing samples from the TDA group, despite the aforementioned low presence of explicit planning in the SDA students' planning templates, in regard to how they would develop characters and setting in their writing samples.

This chapter's discussion of how creativity was mirrored in the students' writing now shifts its focus away from the creative aspects of the NAPLAN marking criteria to a broader discussion on how creativity manifested itself in the study, to address the following research questions: Q3: 'How do students choose to demonstrate their learning when given a choice?' and Q3a: 'What types of text do students choose to write when given the freedom to choose?'

### **The SDA students' choice of writing repertoire**

I was interested in seeing what they chose. I would have expected them to choose narratives, but they didn't do it that way. There was a good assortment, wasn't there?

...and poetry! Some did poetry!

*Follow-up interview with Robin, Year 4 SDA teacher, October, 2009*

The students surprised their teachers by using their SDA as an opportunity to broaden their writing repertoire. Rather than 'playing it safe', the students demonstrated some creative risk-taking (Sternberg & Lubart, 1991a) and used their

particular interests and imagination to fuel the writing process. Overall, eight different types of texts were produced by the students (see table 5.5), with a majority of texts being creative in the sense that they were of a fictional and imaginative nature. By far, the most popular text type was Narrative (44.1%), a fictional text with descriptive language and a clear plot including an orientation, complication and resolution. Poetry (14.2%), Play (3.9%), Letters (3.9%) and Fictional Recounts (1.6%) were other text types where the writers used their imagination and creative expression.

*Table 5.4: Text types in the SDA writing samples*

TEXT TYPE	Year Level			Percent of SDA templates (n = 127)
	Yr. 2 (n = 47)	Yr. 4 (n = 40)	Yr. 6 (n = 40)	
Narrative	42.6%	47.5%	42.5%	44.1%
Poetry	8.5%	17.5%	17.5%	14.2%
Play	0%	5%	7.5%	3.9%
Letter	10.6%	0%	0%	3.9%
Fictional Recount	0%	0%	5%	1.6%
Recount	14.9%	7.5%	2.5%	8.7%
Information Report	10.6%	2.5%	17.5%	10.2%
Procedure	12.8%	20%	.5%	13.4%

With respect to factual texts, particular text types were predominantly chosen by certain year levels. Students in Year 2 wrote the majority of Recounts, sequential texts that re-tell past events of experiences in the order they happened. As discussed earlier in this chapter, as part of the students' exploration of the self, students in the

Year 2 group were used to this text type from writing their weekend journals, which was part of the classroom writing routine for the year group.

With seven out of forty-seven students (14.8%) in the Year 2 SDA group choosing to write recounts, a substantial proportion of the youngest group of students evidently chose to write factual texts, in the form of recounts. Yet, as noted earlier in this chapter, these texts appeared to relate some exploration of psychological development in respect of the self, and therefore presented some complexity of ideas. However, using the traditional definition of creative responses requiring “both a novel and appropriate, useful, correct, or valuable response” to a task without a clear and readily identifiable path to solution (Amabile, 1983, p. 360), recounts are seen here as a factual text with a readily identifiable expected response, rather than a piece of creative writing. In total, Recounts represented 8.7% of the SDA writing samples.

The second form of factual text, Information Reports (10.2%), were mainly written by students in Year 6. Again, it is important to acknowledge that despite the fact that information reports generally are regarded as factual rather than creative texts, several creative approaches such as novel and appropriate choices of subject matter were found in the study. For example, the previously mentioned report on ‘Elvish language’ demonstrates a novel and creative choice of subject matter for a factual text. Creative applications; for example, information reports presented as scrapbooks, were other examples of work, which clearly demonstrated “novel and appropriate,

useful, correct, or valuable” (Amabile, 1983, p. 360) and thus creative responses to the assessment task.

The third text type, Procedures, or instructional texts, were written by students across all year levels and represented 13.4% of all text samples. This text type was predominantly chosen by students in Year 2 and Year 4, and like the recounts, these texts appeared closely connected to the students’ interests. For example, Angus, a Year 2 SDA student, wrote a detailed procedure on how to swim freestyle. Other students, such as Chloe in Year 4, chose to demonstrate their ability to meet the writing criteria by writing a procedure of how to prepare their favourite recipe. Again, the Year 6 students took the initiative to engage in more creative applications beyond the mere writing of the text. The Year 6 teacher, Monica, noted (as quoted earlier in this chapter) that students in her class presented their writing projects in a variety of ways which surprised her; for example, the report by Joe and Jack, presented as a *“video on how to prepare for a Nerf war”*, and Lucy, who *“did the baking (procedure) in front of the class and the students could bake their own chocolate cake which they clearly enjoyed”*.

Despite this creative showcasing of students’ writing, the most noteworthy finding in respect of creative aspects of students’ writing repertoire was the emergence of Poetry as a chosen text type. Neither the class teachers, nor I as the investigator conducting the study, had anticipated the high frequency of poetry before the project began. Several teachers commented in the follow-up interviews that they had studied poetry infrequently in their class. Consequently, they had not expected the students

to choose a text type they were less familiar with in an assessment directed by students to demonstrate that they could meet the curriculum learning outcomes. As such, it is a poignant example of the SDA process enabling students to exercise agentic engagement, by constructively contributing to the task (Reeve, 2012).

Furthermore, given that creativity has been linked to cognitive flexibility and risk-taking (Amabile, 1983; Beghetto, 2010; Dawson, D'Andrea, Affinito & Westby, 1999; Simonton, 2000; Sternberg & Lubart, 1991a, 1991b, 1992, 1996), it follows that the students who engaged creatively in the SDA writing project also displayed risk-taking by exploring and expanding their writing repertoire.

The underlying reason for this creative risk-taking appears to derive from the students considering how to engage a particular audience, which was one of the learning outcomes they needed to address. By reflecting on what they themselves would feel engaged by, the students demonstrated the sort of creative metacognition that Kaufman and Beghetto (2013) posit entails knowledge of one's own creative strengths and limitations and relating it to a context. This creative metacognition involves mastery and knowledge of how, when and where to be creative, and why. The students thus echoed the very definition of creativity by choosing text types in their assessment piece, which struck them as novel and appropriate to showcase their writing ability (Amabile, 1983). These unconventional choices also reflect students' level of confidence with respect to their perception of having the ability to complete the task (Bandura, 1997, 2012). A more elaborated discussion of such self-efficacy is explored in Chapter 7.

This metacognitive engagement—both in the creative and in the self-regulatory sense—is what makes the SDA approach so significant. It scaffolds cognitive and agentic engagement by putting students at the centre of the learning process. By making active choices as they direct their assessment, the SDA process entails what Reeve describes as a transactional form of learning which supports students’ autonomy (Ryan & Deci, 2002). “Agentically engaged students work transactionally with the teacher to create learning conditions that can vitalize their otherwise latent inner motivational resources” (Reeve, 2013, p. 591). This, in turn, enables students to draw on their interests and creative ideas to not only make the task at hand meaningful, but also to develop new understandings about themselves and their context.

In regard to teaching, the SDA teacher applies their professional knowledge in setting the scene for learning, and for teaching the students individually, at the point of need. Furthermore, research into classroom practice which optimises learning has found that students are more successful in reaching learning outcomes when tasks allow students to exercise considerable flexibility in their learning path (Crooks, 1988). Thus, assessment as learning is a metacognitive process, in which students use knowledge of their own thought processes to connect their prior knowledge and understanding with the learning criteria of the assessment (Earl & Katz, 2006).

### **Key understandings of using assessment to foster creative thinking**

This chapter has examined and discussed the qualitative and quantitative findings relating to the creative aspects of writing, framed by the SDA approach in which

assessment is used as a learning process. In this approach, the student plays a key role as a critical connector between the assessment and learning process (Earl, 2003, 2006, 2011, 2013; Earl & Katz, 2006) by *directing* the process.

The chapter has articulated links between the SDA process and students' demonstrated creativity in respect of both process and product. In particular, these findings indicate that students in the SDA groups were more effectively scaffolded and supported in developing their creative thinking skills and creative choices as an expression of their autonomy as learners.

Beghetto (2010) argued that classroom practices and the use of assessment can have “a profound influence on creativity in the classroom. This is because assessments signal to students what is *really* valued and important” (Beghetto, 2010, p. 453, emphasis in original). Jonathan Plucker and Matthew Makel (2010) have also made the point that assessment needs to promote divergent and creative thinking. They posit that in the current age of standardised testing for accountability purposes the issue of divergent thinking is as complicated and as important as it was when Guilford in 1968 observed that “[m]ost of our problem solving in everyday life involves divergent thinking. Yet in our educational practices, we tend to emphasize teaching students how to find conventional answers” (Guilford, 1968, p. 8, cited in Plucker & Makel, 2010, p. 62).

The findings from the present study demonstrate that the SDA process clearly prompted students to engage in divergent thinking, which resulted in the SDA

students' production of highly creative writing samples. This has been demonstrated in interview and questionnaire data from both students and teachers. It has also been established by the statistical analysis of the students' writing scores in the three creative categories of the NAPLAN marking criteria.

A continued exploration of how SDA shapes students' learning follows in the next chapter. It focuses on the technical aspects of students' writing, and examines these as a construct of competence and SRL.



## **Chapter 6: How students develop strategies and competence using Student-Directed Assessment**

This second thematic chapter explores the technical aspects of the students' writing through constructs of competence and academic functioning with respect to Self-Regulated Learning (SRL). The chapter examines the following questions:

Q. 4: How do students in Student-Directed Assessment (SDA) groups use learning strategies and develop competence as learners?

4a: What do students and teachers perceive as benefits and challenges with SDA? (Qualitative strand)

4b: Do results in the writing project vary between SDA and Teacher-Directed Assessment (TDA) students? (Quantitative strand, examined using null and alternative hypotheses for NAPLAN criteria)

The chapter draws on social cognitive theory to examine the qualitative and quantitative findings relating to competence. The discussion is structured around the seven technical aspects of writing: *Text Structure, Paragraphing, Sentence Structure, Cohesion, Punctuation, Vocabulary and Spelling* (MCEETYA, 2008b).

### **Defining competence**

'Competence' refers to "a condition or quality of effectiveness, ability, sufficiency, or success" (Elliot & Dweck, 2005, p. 5). The term 'competence'

provides a coherent and precise basis to integrate achievement-related findings from a diversity of disciplines within psychology, such as *achievement motivation*, *flow*, *cognitive strategies* and *self-regulated learning* (Covington, 2005; Elliot & Dweck, 2005). This chapter connects these diverse constructs in relation to the NAPLAN marking rubric and students' demonstrated competence in the relevant criteria. According to Linda Flower and John Hayes's (1981) seminal analysis of text composition, a set of distinctive thinking processes, such as *planning*, *monitoring*, putting ideas into language (*translating*) and *reviewing*, influences a writer's ability to compose text.

As such, it is a process with a high degree of similarity to the phases of forethought, performance and self-reflection in the SRL cycle (Zimmerman, 2000). The act of composing text itself is a goal-directed thinking process, and as Flower and Hayes (1981) posited, writers create their own goals by identifying high-level goals and supporting sub-goals, which manifest the writer's developing sense of purpose.

The SDA process scaffolds these goal-setting steps, and places the individual student at the centre as a director of the cognitive process. Thereby, it integrates many elements of Flower and Hayes's theoretical construct of text composition as a cognitive process. The SDA approach is task-driven and prompts students to reflect and identify part-goals for their writing in a purposeful manner. With support from their teacher, the students are scaffolded to use intrapersonal components, such as knowledge and understanding, and apply these in the

processes of writing. By doing so, the student engages in SRL behaviours such as help-seeking (Butler, 2006; Karabenick, 2011; Karabeick & Berger, 2013; Karabenick & Newman, 2006; R. Newman, 1990) and strategic planning (Zimmerman, 2008a) when they develop their work. This results in a product, the student's writing sample, which demonstrates the competence with respect to the technical aspects of writing.

This chapter thus explores competence in a formative sense in respect of SRL behaviours, which contribute to learning during the process of developing work. Competence is also explored in a summative sense, regarding competence in the product.

### **A range of competence considerations: technical aspects of writing in the NAPLAN criteria**

The NAPLAN marking rubric uses detailed and comprehensive marking criteria in which different aspects of writing are scored. Three of the ten criteria were discussed in the previous chapter, which focused on creativity. The remaining seven criteria, which relate to the technical aspects of writing, are examined in this chapter. These criteria provide a range of considerations for the discussion of students' competence and technical ability to construct texts, which require factual knowledge (Krathwohl, 2002) and strategic skills (Weinstein, et al., 2011; Weinstein, 1994).

The first technical aspect, *Text Structure*, focuses on the inclusion of narrative features such as orientation, complication and resolution. This is followed by

*Paragraphing*, which looks at whether the text has been segmented into paragraphs, which assist the reader. The next aspect, *Sentence Structure*, is used to determine the degree of grammatically correct and meaningful sentences. The following category, *Cohesion*, focuses on the text's clarity of meaning and flow. The use of correct and appropriate *Punctuation* is then examined. In *Vocabulary*, the range and sophistication of language choices are scored according to an annotated index. The last of the seven technical marking criteria is *Spelling*, which refers to the accuracy and level of word difficulty in the text.

As in the previous chapter, first the qualitative and then the quantitative findings are discussed as each technical aspect is explored. The discussion of students' learning and demonstrated competence in the technical aspects of writing thus consistently reflect the study's mixed-methods design. As stated when clarifying the methodology in Chapter 4, the adoption of a mixed-methods approach enables a complex exploration of the data. For example, it allows for meaningful comparisons between the participants' accounts and the post-test results, which in turn provides insight into how learning was shaped by the SDA approach.

### **Competence and self-efficacy**

As explained above, competence requires intrapersonal factors such as cognition and knowledge (Elliot & Dweck, 2005). However, self-motivating beliefs are also an essential intrapersonal factor (Zimmerman, 2011). Human motivation, wellbeing and accomplishment are based more on what an individual believes to be true, than what is objectively true (Bandura, 1997, 2012; Schunk & Pajares,

2005). Furthermore, people's perception of capabilities to learn or perform at designated levels—people's *perceived self-efficacy*—help determine what they do with the knowledge and skills they have, and the course of action they pursue (Bandura, 2012).

Given this, self-efficacy would have been a key, influencing factor which contributed to the significant differences in achievement between the SDA and the TDA groups in the creative criteria of writing, discussed in the previous chapter. But would a student's ability to demonstrate competence in the technical aspects of writing be influenced by their perceived competence to do so? Could students' choices—made as part of the SDA process—result in differences in mastery of technical aspects, such as constructing grammatically correct sentences and spelling accurately? Research suggests that self-efficacy determines how much effort people will expend on an activity, and how long they will persevere when faced with obstacles in the task (Pajares, 1996; Schunk, 1995; Schunk & Pajares, 2005). Yet, high amounts of self-efficacy will not produce a competent performance, if the requisite skills are lacking (Schunk, 1995).

So—in the context of students making choices—for any differences in competence relating to the technical criteria of writing, the students' mastery of skill in the criteria is crucial. On the other hand, research suggests that use of cognitive strategies lead to higher achievement and is connected to self-efficacy (Pintrich & De Groot, 1990). From this we can deduce that scaffolding students to

develop cognitive strategies, and supporting them to develop confidence in their ability to complete tasks, potentially leads to increases in achievement.

Of particular interest in relation to the SDA approach is that students' notion of perceived control has been found to impact on competence beliefs (Connell & Wellborn, 1991, cited in Schunk & Pajares, 2005). In addition, Schunk (1995) found that people sustain apt behaviour directed towards learning when they have a sense of controlling learning and performance. Given that SDA clearly allows students to exercise control by directing their learning process through sub-goals they have set themselves, it is likely that the SDA approach would have an impact on students' beliefs and demonstration of competence.

To see if this indeed was the case in the present study, this chapter now turns to examine the first of the technical competence considerations discussed here: *Text Structure* (MCEETYA, 2008b).

#### **LEARNING STRATEGIES NEEDED TO DEVELOP TEXT STRUCTURE COMPETENTLY**

The term 'text structure' refers to the ways in which information and characteristic features are organised in different types of texts, depending on the text's purpose (ACARA, 2013a). Three main categories of text are identified in the Australian Curriculum: *imaginative*, *informative* and *persuasive* texts. Imaginative texts are primarily aimed at entertaining the reader through the writer's use of literary elements. Examples of this category of texts include narratives, poetry, plays and fiction (ACARA, 2013a). The main purpose of

informative texts is to provide information, exemplified by text types such as explanations, recounts and instructive texts such as procedures (ACARA, 2013a). The third category of texts, persuasive texts, is defined as texts in which the writer puts forward a point of view aimed at persuading the reader or listener. Text types associated with this category are expositions, debates, discussions, advertising texts and essays (ACARA, 2013a).

In the SDA approach, the forethought phase scaffolds students to analyse the learning outcomes and consider what necessary skills and goals these outcomes require them to demonstrate, to meet the outcome goal. This is part of task analysis and strategic planning, which are components of SRL (Zimmerman, 2000). A similar approach was used in a case study conducted with small groups of Year 5 students in North America (Graham, Harris, & Troia, 1998). The study found that teaching students to incorporate SRL strategies can have a dramatic impact on students' ability to write elaborated and focused answers in relation to particular text types.

The SDA approach differs from the study by Graham et al. (1998) because the class does not just focus on one type of text. Instead, SDA targets students' agentic engagement (Reeve, 2012, 2013; Reeve & Tseng, 2011), as the students individually choose what text type they will produce in the assessment. Consequently, the exploration of elements and text features significant for the particular type of text varies, depending on the individual student's choice.

While this may reduce the concerted focus of a whole-class approach, several teachers in the SDA study set up groups of students who chose to write the same text type so that students could draw on each other's ideas in the initial planning stage. In line with the idea of triadic reciprocity among individual, social and behavioural factors (Bandura, 1986), this enabled teachers to scaffold and prompt each group of students to identify sub-goals that related to the particular structure and text features that they needed to demonstrate in the assessment.

The second stage in the SRL model used by Graham et al. (1998) involved individual conferences between the teacher and students. These conferences focused on examining and discussing the student's current performance and strategies used to accomplish specific assignments. After the individual conferences, students began listing strategies, which involved identifying the intended audience and their reasons for writing the paper. Students also developed an outline for their essay, including establishing the premise for the paper and identifying ideas to support the premise. Again, the SDA process is very similar, particularly with the respective emphasis on identifying the intended audience.

The next step in the respective SRL processes differs. In the North American study (Graham, et al., 1998), the third step involved the teacher modelling how to use the writing strategy by 'thinking out loud' to explicitly address each step of the writing strategy. In the SDA approach, this third step is less teacher-driven. In respect of the writing strategy steps, which are specific depending on the text type, teachers in the SDA study used text type templates (Eather, 2006) as a scaffolding

device to help students become aware of the components of the particular text type structure they were preparing to write.

Elle, one of the Year 6 SDA teachers, described how she set up a writing corner as part of the scaffolding of text types, for the purpose of helping students self-regulate and become aware of the text structure associated with their chosen genre.

When asked what she thought characterised a good learning activity, Elle mused:

Elle: I guess something that, uhm... is interesting to all different styles of learning. And explains what they are expected to do.

Anna: [encouraging Elle to continue] Yeah...

Elle: And to plan it and then do it. So I think this worked really well, 'cause once they got their head around what 'criteria' means, they all understood what they were doing. Because it was explained.

Anna: ... So, did you find that the template helped? Or the fact that they got to choose their own thing, or...

Elle: Both. Definitely. Yeah. They [chose] what they were interested in and learnt more about that genre by doing it and having the information up. We put a writing corner up there [pointing at a wall] and they did go and refer to those coloured papers [Eather's text type templates] regularly.

Anna: So, did they seem fairly self-directed, or did you have to [prompt them often]?

Elle: No, once they understood what was expected with the criteria—I went through that a couple of times—then they would just fly.

And they were asking: Can we do our writing project, Can we do our writing project? And they were just awesome.

*Follow-up interview with Elle, Year 6 SDA teacher, December, 2009*

Although Elle does not use the term ‘teacher modelling’ in the passage above, she is alluding to it when referring to having “*went through [the criteria] a couple of times*”. It is likely that students’ awareness of their goals had a positive influence on their academic achievement. For example, research suggests that students’ performance is enhanced when challenging and specific performance standards are articulated (Schunk, 1996; Winne & Stockley, 1998).

Indisputedly, Elle found that her students engaged in SRL by involving themselves in analysing what the criteria entailed them to demonstrate. Furthermore, Elle’s choice of words appear striking when stating that her students “*would just fly*” as they persisted with their writing project. Researchers of flow theory, the subjective state associated with complete task involvement, contend that:

[F]low tends to occur when the activity one engages in contains a *clear set of goals*. These goals serve to add direction and purpose to behaviour. Their value lies in their capacity to structure experience by channeling attention rather than being ends in themselves.

(Csikszentmihalyi, et al., 2005, p. 601, emphasis in original)

In regard to the technical aspects of writing, it is not suggested that the focus on technical criteria triggered some students to develop a flow state. However, it is possible that the flow which several students experienced, and which Elle is referring to when describing her students as ‘flying’, had a positive impact on the students’ ability to demonstrate their competence in the technical aspects of writing.

By placing students in the active role as directors of their assessment and learning process, students are required to apply their metacognitive skills by relating the process to their prior knowledge and mastering the skills involved. Earl posited that: “This is the regulatory process in metacognition. It occurs when students personally monitor what they are learning and use the feedback from their monitoring to make adjustments, adaptations and even major changes in what they understand” (Earl, 2003, p. 25). Earl’s point of view and the SDA approach are not at odds with traditional SRL models such as the one used by Graham et al. (1998). However, conventional SRL models adopt a TDA approach, aimed at preparing students to independently apply metacognitive skills and regulate their learning towards the end of the process. The SDA approach on the other hand, sets students up to develop competence by making choices from the outset. Thus, SDA aims to enhance self-efficacy by drawing on interest and perceptions of control (Schunk & Pajares, 2005), in a process that is scaffolded and supported by the teacher throughout.

Reeve (2013) makes a similar distinction between agentic engagement and SRL. He points out that once students have mastered SRL, they accomplish tasks *without* teacher help. By contrast, agentic engagement involves a transactional relationship between the students and teacher, as the students constructively contribute to the flow of instruction. The SDA approach adopts a similar stance by putting the student at the centre as the director of the learning process.

### **Feedback and point-of-need teaching to promote competence: benefits of and challenges with SDA**

Findings from the present study suggest that providing students with individual feedback in the form of conferences and feedback was a distinct feature of the assessment process, as it was put into practice in the classrooms:

I did small groups to start off with, to get an overview and then... yeah... a couple of sessions going through each part [of the planning template]. Some of them I still... some of the kids still didn't quite understand, and more the fact that... it was just new to them. I'd go through each part again... especially with the bottom part, the strategy they used. Some of them found that bit hard to grasp. And did not realise that they are doing these things [applying strategies to solve a task] anyway...

[...] I was conferencing with them, with their writing pieces, saying: *okay, so what did you do? Did you look through your work before you came to me?* So I had to talk them through it. But then we wrote down things they did.

*Follow-up interview with Maria, Year 2 SDA teacher, October, 2009*

Maria's description above clearly shines a light on how SDA is a process that emphasises teacher scaffolding in structuring the assessment as learning path, in which students direct their assessment. Her reference to the "*couple of sessions going over each part*", reflects how she guided students to reflect as they directed their assessment to address the proximal learning goals and the overall learning outcome from the syllabus.

In the teacher interviews, particularly the Year 2 and Year 6 teachers noted that their students actively had sought their help during the writing project. The teachers had interpreted this as a sign of their students' engagement in their learning and used the help-seeking as an opportunity for 'point-of-need' teaching. Adaptive help-seeking is distinguished in the SRL literature as different from social dependence (R. Butler, 2006; Karabenick, 2011). As a feature of SRL, adaptive help-seeking is characterised by self-initiation, selective focus and limited duration (Zimmerman & Kitsantas, 2005).

This is similar to the carefully orchestrated 'mini-lessons' observed in classrooms in which high levels of self-regulation feature (Perry, 1998). Maria's guidance entailed helping her students become aware of the text structure and features associated with the text type, which the student had chosen:

They needed me to go through it quite a bit. But... I think it all came down to what writing piece they chose. [...] With the narratives, most of them were okay because they knew the format. Whereas if they were doing something different, poems or letter writing, which we haven't

touched on as much, that's when they needed a lot of help to fill in the sheet.

*Follow-up interview with Maria, Year 2 SDA teacher, October, 2009*

Here, Maria is referring to key components of the writing process, in which she scaffolded the students to employ higher-order thinking skills, an example of the reciprocal nature of SDA (Bandura, 1986). This involved students' cognitive engagement in determining how to structure their text and decide on appropriate strategies for checking and developing their work. This is one of the key benefits and challenges of the SDA—its use of assessment as a metacognitive, formative learning process (Earl, 2006). It is a dynamic learning process, in which reflection about the different components of writing and of text structure is used to inform and expand students' learning, the very essence of formative assessment (Black, et al., 2003; Crooks, 1988; Torrance & Pryor, 1995).

Earl (2013) contends that: "Learning for understanding suggests a much deeper grasp of underlying ideas and concepts" (p.41). This thesis posits that the SDA uses assessment to develop just such an understanding in students. It is a discernable example of the meaningful, learner-centred assertions Nadine Lambert and Barbara McCombs (1998) made, as they outlined key principles that influence learning and achievement—or competence—as it is referred to here. They argued that learning which draws on students' perspectives, beliefs, interests and goals promote students to engage in, and take responsibility for, their own

learning (Lambert & McCombs, 1998). Furthermore, Lambert and McCombs articulated the students' central role as connectors in the learning process:

Learning is a constructive process that occurs best when what is being learned is relevant and meaningful to the learner and when the learner is actively engaged in creating his or her own knowledge and understanding by connecting what is being learned with prior knowledge and experience.

(Lambert & McCombs, 1998, p. 10)

Earl frames this learner-centred approach in an assessment as learning context, by linking students' personal goals with external standards (Earl, 2003, 2013). When students develop their self-regulatory learning skills, as the central connectors in a fusion of the assessment and learning process, explicit feedback and point-of-need teaching are crucial elements. In relation to this, it is poignant to emphasise that such point-of-need teaching and explicit feedback is a natural component of the SDA process.

Earl (2006) described point-of-need teaching in the assessment process as an integral part of the feedback loop for learning “with the emphasis in many assessment events shifting from making judgments that categorize students, to using them as windows into learning” (Earl, 2006, p. 12). In line with Earl's position, SDA uses assessment as a learning process. By doing so, teachers are presented with opportune, student-initiated times to provide feedback and point-of-need teaching which, by its very nature, helps make feedback contextualised,

specific, meaningful and timely for students. These aspects of feedback are the very cornerstones of formative assessment (Black, et al., 2003).

In a similar vein, a qualitative study from Canada aimed at identifying strategies teachers' use to foster young children's engagement in SRL in the classroom is informative. The study explored Kindergarten to Year 3 teachers' use of assessment as learning during reading and writing activities, by analysing running records of teachers' actions and verbal interaction with students (Perry, VandeKamp, Mercer, & Nordby, 2002). Perry and her colleagues (2002) found that teachers created intrinsically motivating learning contexts by embedding assessment and evaluation in the ongoing classroom activities, making students accountable for their personal progress and learning. Key elements of the teachers' approach were their focus on self-regulatory elements such as planning, monitoring, problem solving and evaluation during complex literacy tasks.

In the SDA study, students' planning and monitoring were also evident. When interviewed, Ruby, a Year 4 SDA student, was asked to explain how she had used the planning template. She explained how she had allocated herself marks for the different components of her planning:

I gave the first [strategy a score of] 2, because it gave me most ideas for my poem [...] and the second was just to remind me what I should do. Like how to check it. The first part was how I should start my poem.

*Follow-up interview with Ruby, Year 4 SDA student, October, 2009*

This interview segment illustrates Ruby's metacognitive considerations and self-regulatory behaviour, which she applied as she directed her assessment. She demonstrates higher-order thinking in evaluating the importance of different strategies she used by allocating scores according to *"most ideas for [the] poem"*. Her ability to rank cognitive strategies aligns with the higher-order thinking taxonomy (Krathwohl, 2002). Ruby's distinguishing of different levels of cognitive considerations becomes further evident when she describes a lower-order thinking aspect, which she has included in her planning *"just to remind me what I should do"*. Later in the interview, when asked what she thought she demonstrated in her assessment, Ruby confidently used metalanguage (McLeod & Reynolds, 2006), by explaining that she had demonstrated in her assessment that *"I could do couplets. Because I used couplets in my poem"*. With respect to *Text Structure*, which is explored here, this short interview segment provides a clear indication of Ruby's understanding of how the organisation of text and inclusion of particular text features constitute a key element of competence in writing.

#### *Teachers' reflections about students' competent use of text types in the SDA*

The teachers in the present study found the SDA approach to be effective in promoting self-regulated, confident and competent learners. In the interviews, they explained how they perceived that students' need for prompting from the teacher would be less pronounced, as students became more familiar with the steps of planning and directing their assessment. Both teachers of the Year 2 SDA groups expressed in interviews how the students had demonstrated a higher

degree of writing capability than they had expected. Emma, one of the Year 2 teachers, explained:

I could tell they understood all the text types. [...] They did not just know what the word is, but they knew how to write one.

She concluded:

On the whole, I think they did really well. I was surprised reading [the students' writing samples], how well they did.

*Follow-up interview with Emma, Year 2 SDA teacher, October, 2009*

Similarly, the other Year 2 SDA teacher, Maria, found that several of her students exceeded her expectations in respect of being capable writers: “*They were so involved with it. And they kept writing, and writing, and writing!*” As argued earlier in this chapter, the SDA approach appeared conducive to promote students experiencing flow as they directed their learning through the assessment. It appears likely that this level of enthusiastic, deep, engaged and self-regulated learning had a positive influence on the students' ability to demonstrate competence in the technical aspects of writing.

In addition, Maria was pleased to note that her students initiated self-editing as part of the strategies for checking their work:

It was great just to do the whole drafting side of things 'cause often I've talked about the importance of doing a first copy and then... So, this

activity allowed them to see the reason why we do that first copy, then edit, then do presentation at the end.

*Follow-up interview with Maria, Year 2 SDA teacher, October, 2009*

From a qualitative stance, the findings suggest that the SDA had a positive effect on students' learning. With respect to comparing quantitative data, as explained in Chapter 4, the statistical analysis included only writing samples from Year 4 and Year 6.

*Differences in results in the Text Structure criteria*

A comparison of the means, standard deviation in the SDA and TDA students' pre-test and post-test scores in the *Text Structure* criteria (MCEETYA, 2008b, Appendix K), was carried out to examine any difference in effect size between the SDA and the TDA groups (see table 6.1). This indicated a strong to moderate (Cohen, 1988) effect size difference between the two groups in Year 6. This result indicates that the Year 6 SDA students demonstrated the competence to construct a more developed form of text structure in their writing samples, compared to their TDA peers. With a mean score close to 3, the SDA group's texts were longer and more detailed, with all text type elements such as orientation, complication and resolution clearly included. By contrast, the TDA group's mean score of 2.26 indicate gaps in the text structure, such as a missing or weak resolution. Short texts, less than one handwritten page, are automatically scored a 2 for *Text Structure*, simply because they are too short to show any genuine development. However, it is worth noting that the Year 6 TDA groups wrote Narratives and

Information Reports, both text types that require detailed writing to be of substance.

*Table 6.1: Difference between SDA and TDA students' pre-test and post-test scores in Text Structure*

	NAPLAN CRITERIA	<u>SDA</u>		<u>TDA</u>		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Text Structure (pre-test)	1.93	.57	1.97	.63	-.07
	Text Structure (post-test)	2.43	1.06	2.66	1.09	-.21
Yr. 6	Text Structure (pre-test)	2.21	.70	2.19	.63	.03
	Text Structure (post-test)	2.90	.81	2.26	1.02	.70

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

This finding followed the pattern explored in the previous chapter, but a more nuanced understanding was generated when comparing the effect size of progress from the pre-tests to the post-test in the two year groups (see table 6.2).

*Table 6.2: Difference from pre-test to post-test scores in students' Text Structure scores*

	NAPLAN CRITERIA	<u>Post-test</u>		<u>Pre-test</u>		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Text Structure (SDA)	2.43	1.06	1.93	.57	.61
	Text Structure (TDA)	2.66	1.09	1.97	.63	.80
Yr. 6	Text Structure (SDA)	2.90	.81	2.21	.70	.91
	Text Structure (TDA)	2.26	1.02	2.19	.63	.08

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

The effect sizes illustrated in table 6.2 show a complex picture, from which one can deduce that in Year 4, the TDA groups Text Structure scores improved more than the SDA groups. However, the greatest difference when comparing students' progress from pre-test to the post-test was for the Year 6 SDA group, which showed a very strong effect size of progress compared to the minimal effect size of progress in the Year 6 TDA group.

These results suggest that while both groups in Year 4 made sound progress, the students in groups where the teacher decided the text-type were more confident than their Year 4 peers who were given choice as they pre-planned, set goals and evaluated their progress as part of the assessment process. By contrast, the older students in Year 6, responded very positively to choosing their text type, as demonstrated by the SDA group's much stronger results in the *Text Structure* criteria.

Continuing the exploration of students' demonstrated technical competence, this chapter now turns from the wider perspective of the overall text structure to considering another organising structure: students' ability to craft texts which separate the discussion of different ideas. This is the skill assessed in the *Paragraph* criteria.

#### **LEARNING STRATEGIES NEEDED TO DEVELOP PARAGRAPHS COMPETENTLY**

The *Paragraph* criteria are the most narrow of the ten NAPLAN writing criteria, with a score range from 0 to 2 (MCEETYA, 2008b, Appendix K). The allocation

of scores is uncomplicated. Blocks of text without indication of breaks to signify shifts in ideas are marked 'zero'. Texts that demonstrate some command of organisation by focusing on a single idea, indicated by some use of paragraphs, are scored 1. The highest possible score of 2 in the category correlates to deliberate structuring of the text to pace and direct the reader's attention, in which "all paragraphs are focused on one idea or set of like ideas", which enhance the text (MCEETYA, 2008b, p. 12).

Despite the clear-cut approach to scoring students' demonstration of their ability to apply paragraphs, the concept of structuring text according to ideas is quite abstract. It requires students to engage cognitively, to competently translate their knowledge of structure and separation of ideas into different paragraphs (Flower & Hayes, 1981).

A glance at the curriculum documents from the Northern Territory (which formed the basis of students' learning goals on the SDA writing template) and the new national curriculum documents for English establish that students are not expected to begin using paragraphs until they are in middle primary. In the Northern Territory Curriculum Framework (NTCF), paragraphs emerge as an indicator in Stage 2, which applies for students from Year 2, with students expected to demonstrate a solid command of paragraphs by Year 5 (Northern Territory Department of Education and Children's Services, 2009a, 2009b). The NTCF Band 2 indicator stipulates that learners "know and understand that [...] paragraphs are units of meaning and a new paragraph is used in a factual text

when a new idea is introduced and in a narrative when there is a change of speaker, place or time” (Northern Territory Department of Education and Children’s Services, 2009b, p. 12). This aligns with the national curriculum, which stipulates that students in Year 3 should “understand that paragraphs are a key organisational feature of written texts” (ACARA, 2012a, Content description code: ACELA1479), with students’ using paragraphs to present and sequence a text, identified as part of *Elaborations* in Year 5.

With respect to the SDA project, the planning templates provided a clear forum for students to demonstrate their awareness of, and intention to use, paragraphs. This was demonstrated across all year levels and indicated sound cognitive engagement within the SDA groups, as their consideration of paragraphs was evident in both planning and the written samples. For example, in Year 2, two of forty-eight students nominated paragraphs on the Year 2 SDA planning templates, but 25% demonstrated use of paragraphs, compared to three of fifty-nine (5%) in the TDA group. This indicates how the SDA process facilitated SRL, by prompting students to both nominate goals and reflect on their learning by applying metacognitive skills.

In the other SDA groups, paragraphs also featured prominently as a stated goal. For example, they were an explicitly stated goal on eighteen of thirty-eight Year 6 planning templates (47.3%). In respect of self-reflection, the Year 6 students differed from the Year 4 students, as none of the Year 6 students nominated their use of paragraphs as a particular strength they demonstrated in the assessment,

which, by contrast, three Year 4 students did. However, three of the eighteen Year 6 students who had identified paragraphs as a goal also noted this as an area to work on further, when they evaluated their effort after completing the SDA project. This again suggests the intrinsically motivated, goal-driven and effective approach to learning, which characterises self-regulating learners (Perry, Hutchinson, & Thauberger, 2007; Zimmerman & Bandura, 1994).

#### *Comparison of students' paragraph scores*

As with all the marking criteria in this thesis, the Year 2 writing samples were excluded from the statistical analysis. A comparison of the interaction between students' *Paragraph* scores in the pre-test, post-test and the interaction between the two (see tables 6.3 and 6.4), indicated that the SDA students in both Year 4 and Year 6 outperformed their peers in the TDA classes, which strongly attest to the positive impact SDA had on students' learning in respect to demonstrating competent use of paragraphs.

Table 6.3: Difference between SDA and TDA students' pre-test and post-test Paragraph scores

NAPLAN CRITERIA	SDA		TDA		<i>d</i>
	Mean	SD	Mean	SD	
Yr. 4 Paragraphs (pre-test)	.28	.45	.48	.51	-.42
Paragraphs (post-test)	1.58	.75	1.48	.87	.12
Yr. 6 Paragraphs (pre-test)	.92	.48	.93	.34	-.02
Paragraphs (post-test)	1.86	.35	1.50	.75	.65

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

Table 6.4: Difference from pre-test to post-test in students' Paragraph scores

NAPLAN CRITERIA	Post-test		Pre-test		<i>d</i>
	Mean	SD	Mean	SD	
Yr. 4 Paragraphs (SDA)	1.58	.75	.28	.45	2.17
Paragraphs (TDA)	1.48	.87	.48	.51	1.45
Yr. 6 Paragraphs (SDA)	1.86	.35	.92	.48	2.27
Paragraphs (TDA)	1.50	.75	.93	.34	1.05

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

These findings clearly confirm that the SDA students demonstrated a much higher degree of competence in regard to organising their texts into paragraphs, which focused on one or several related ideas. As such, the competent use of paragraphs indicates an ability to engage metacognitively, as students need to engage in abstract thinking while they identify and organise text into segments of ideas. This,

in turn, is an indication of SRL because students who demonstrate competent use of paragraphs also demonstrate that they can regulate their thinking and apply these thinking skills as they develop their work, which here is of an abstract nature.

#### **LEARNING STRATEGIES NEEDED TO STRUCTURE SENTENCES COMPETENTLY**

In contrast to the narrow parameters by which paragraphs are scored in the NAPLAN, the assessment of students' ability to construct "grammatically correct, structurally sound and meaningful sentences" (MCEETYA, 2008b, p. 13) is more complex. However, as the previous section argued, the ability to craft texts in correct paragraphs requires both knowledge and thinking skills from students. The same applies to sentence structure.

The *Sentence Structure* category identifies four functions of sentences: *statements*, *questions*, *commands* and *voicing exclamations* (MCEETYA, 2008b, p. 88). In addition, sentences are classified into three categories.

The most basic of the three categories is *simple sentences*, which contain a single clause such as: 'We went to the movies.' Samples with predominantly simple but correct sentences are scored a 2 in the *Sentence Structure* criteria.

The second category, *compound sentences*, refers to sentences in which two or more clauses are linked so that both are given equal status as a statement. In respect to the writing criteria, samples with mostly correct simple and compound sentences are scored a 3.

The third type, *complex sentences*, contains embedded and/or subordinate clauses. The embedded clause is part of the structure of another clause and does therefore not have a coordinating relationship with the main clause (MCEETYA, 2008b, p. 88). In respect of the marking criteria, samples which show experimentation with complex sentences—for example, by including ‘because’ to connect clauses, but which demonstrate limited success in the construction of complex sentences—are typically scored a 3.

The higher score in the category relates to the students’ display of competence through the level of sophistication the sentences demonstrate. For a score of 4, *all* simple and compound sentences, as well as *most* complex sentences, are correct. However, the writing may display a lack of variety in its sentence structure. A score of 5 is awarded to students who demonstrate the ability to construct correct sentences of all types, which enhance meaning. At this level, the sentences vary in length, structure and beginning. For the highest score in the category, 6, students exercise skilful control and consistent effectiveness by constructing stylistically appropriate, well-developed sentences that express precise meaning.

It is important to point out that punctuation is marked in a separate category, so students with limited competence in identifying sentence boundaries with punctuation may still achieve quite high scores in the *Sentence Structure* criteria. However, *run-on* sentences, which are characterised by the repeated use of ‘and’, ‘but’ or ‘so’, are not regarded as successful. Students’ ability to competently use grammar is a significant consideration in the *Sentence Structure* category. An

example of one such grammatical consideration is students' control of verb use—if a subject is singular, the verb must be singular too. Students' ability to use correct verb tense is also assessed in the *Sentence Structure* category. As such, for students to demonstrate competence in the category of *Sentence Structure*, myriad significant cognitive demands are placed on students.

### **Students' awareness of sentence structure in the planning templates**

The planning templates indicated students' growing awareness of skilful construction of sentences, which in turn indicated self-regulation as learners. In Year 2, a quarter ( $n = 12$ ) of the SDA students made notes relating to checking their sentence structure on their checklists of goals to keep in mind. In Year 4, 72.5% of the SDA students' planning templates indicated that the students would give attention to sentence structure, with seventeen out of all forty Year 4 templates (42.5%) explicitly stating intent to demonstrate variety in sentence construction to 'make sentences interesting' by 'using different sentence starters', as many students expressed it.

In Year 6, a different focus on sentence structure was evident, which again indicated that students engaged metacognitively by planning and thinking about their learning. Out of thirty-eight templates, sixteen contained sentence-related goals (42.1%). These goals covered seven categories, with *verb tense* articulated as a key focus in respect of constructing sentences. In the self-reflection phase of the project, 13.1% identified their use of grammar as the feature of their writing they were the most pleased with.

The Year 6 planning templates suggested that a substantial number of students were intending to monitor their ability to construct grammatically correct, structurally sound and meaningful sentences, to echo the relevant skill focus as worded in the NAPLAN (2008). As a prelude to the statistical analysis results, which follow next, it is noteworthy that the Year 4 templates emphasised intent to demonstrate variety in sentence starters. This aim connects with a score of 5 in the marking criteria, in which the writer demonstrates the ability to construct sentences that enhance meaning by showing variety in length, structure and beginnings. However, if the writer is not yet able to achieve this goal, the writing sample may correspond with the descriptor for a score of 3, which states that the writer ‘experiments with complexity but with limited success’. In contrast, the Year 6 templates, which largely focus on correct grammar, would appear to be more associated with a score of 4, in which control of simple, compound and complex sentences is consolidated.

#### *Comparison of Sentence Structure scores*

Despite the clear goal-setting in the planning templates, the statistical analysis of the *Sentence Structure* criteria followed the same pattern as the *Text Structure* scores discussed earlier in this chapter. In Year 4, the TDA group narrowly outperformed the SDA group and in Year 6, the SDA group outperformed the TDA group (see tables 6.5 and 6.6).

Table 6.5: Difference between SDA and TDA students' pre-test and post-test scores in Sentence Structure

	NAPLAN CRITERIA	SDA		TDA		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Sentence Structure (pre-test)	2.38	.70	2.17	.60	.32
	Sentence Structure (post-test)	2.81	.60	2.71	.70	.15
Yr. 6	Sentence Structure (pre-test)	2.92	.91	2.86	.75	.07
	Sentence Structure (post-test)	3.24	1.01	2.70	1.02	.53

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

The Year 6 post-tests scored revealed a moderate effect size of the SDA students demonstrating a higher ability to construct complex sentences than the TDA students. A comparison of the level of development from the pre-test to the post-test indicated a greater level of growth for the Year 6 SDA group compared to their peers in the TDA group. However the strongest effect size of developing competence in *Sentence Structure* was found in the Year 4 TDA group, followed by the Year 4 SDA group (see table 6.6).

Table 6.6: Difference from pre-test to post-test scores in Sentence Structure

	NAPLAN CRITERIA	Post-test		Pre-test		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Sentence Structure (SDA)	2.81	.60	2.38	.70	.66
	Sentence Structure (TDA)	2.71	.70	2.17	.60	.83
Yr. 6	Sentence Structure (SDA)	3.24	1.01	2.92	.91	.33
	Sentence Structure (TDA)	2.70	1.02	2.86	.75	-.18

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

The mean scores in the different groups are informative. For example, they indicate that the average TDA student predominantly wrote simple sentences in their writing sample and had limited success in their experimentation with compound and complex sentences. The average SDA students, on the other hand, were working towards demonstrating greater control of complex sentences, albeit with a lack of variety. This is where this study's adoption of mixed methods allowed for a more nuanced interpretation. The qualitative tool presented by the planning templates help shed some more light onto the matter, as they indicated that a large proportion of students in Year 6 were focusing on developing correct grammar and use of verb tense in their writing, rather than writing for effect by varying length, structure and beginnings in their sentences.

From a competence perspective, this is of interest because the Year 6 SDA students articulated their intent to focus on specific technical aspects of their sentence structure by nominating use of correct grammar and verb tense as a goal. In combination with the Year 6 group's higher achievement than their TDA peers in the *Audience* criteria, this suggests that the students who used the SDA planning template were scaffolded to direct their attention to both the technical aspects of writing as well as writing for effect by keeping their intended audience in mind as they developed their text.

The SDA template was developed with the intention to stimulate students' self-regulatory behaviours through forethought, goal identification and monitoring by

scaffolding students to check their progress and written drafts against their listed sub-goals and strategies. This process in itself requires students to apply their metacognitive skills, by actively directing the learning process and by reflecting on their choices and progress. Both the qualitative findings as well as the quantitative results (particularly in the *Other* marking criteria) suggest that the SDA process largely fulfilled these intentions. While the inferences are limited to the single school where the study was conducted, the results nevertheless suggest that the approach clearly has pedagogical merit. To this end, it is likely that an SDA approach would benefit the learning of a much larger cohort of students. Continuing the discussion of how SDA shapes students' demonstration of their ability to apply writing technical considerations, this chapter now turns to students' use of cohesive devices in their writing.

#### **LEARNING STRATEGIES NEEDED TO DEVELOP COHESIVE TEXTS**

Cohesion is a text feature that extends beyond the sentence boundaries, as it links ideas and concepts in a text, and controls relationships over the whole text (MCEETYA, 2008b; Witte & Faigley, 1981). The control of the multiple threads in a text is achieved through cohesive devices such as: *text connectives*, *referring words*, *substitutions*, *word associations* and *ellipsis* (MCEETYA, 2008b). Several of these cohesion groups have sub-groups. A brief outline of how text connectives provide logic in text is provided below, before competence in this regard is discussed.

### *Text connectives*

Connectives link paragraphs and sentences by providing logic discourse markers of the relationship, which extend the meaning from one sentence to a subsequent one. Six sub-groups of connective words are identified in the NAPLAN marking guide. These range from *temporal* connectives, which indicate the sequence of ideas; *causal* connectives, which clarify cause and effect between ideas; *additive* connective words to provide additional information; *comparative* connectives which link alternatives; *conditional/concessive* connectives which set parameters; and connectives which *clarify* the logic of ideas.

### *Cohesion and competence*

From a competence perspective, the skill focus students' demonstrate in the *Cohesion* criteria constitutes a complex blend of lexical, grammatical and conceptual features in language. Students' technical skill in constructing grammatically correct links between ideas is assessed because a writer uses cohesive devices to clarify logical connections between sentences. However, text cohesion also draws on students' metacognitive skills in a 'big picture' sense, by enabling the reader to understand the text as a connected discourse of concepts. In this regard, a writer uses cohesive devices to build and present a logical written argument.

Stephen Witte and Lester Faigley (1981), have explored competent use of cohesive devices, in a study which compared the internal characteristics of essays written by students in their first year at the University of Texas at Austin. Out of

ninety holistically rated essays, the top five and the bottom five essays were analysed for their syntactic features, and the number and types of cohesive ties between ideas. As they had anticipated, Witte and Faigley found that the highly rated essays were longer and contained fewer connective errors. They also found that the writers of the high-rated essays employed more than three times as many connective ties between ideas, compared to the low-rated writers. In their analysis of the types of cohesive devices used by high-quality essay writers and low-quality essay writers, Witte and Faigley (1981, p. 197) noted that competent, high-achieving writers “seem to have a better command of intention skills that allow them to elaborate and extend the concepts they introduce”. By contrast, they found that “the low-rated essays stall frequently, repeating ideas instead of elaborating them” (Witte & Faigley, 1981, p. 198). The study concluded that students who wrote the low-rated papers lacked working vocabularies needed to elaborate the concepts and ideas they introduced in their essays. Thus, writing of a high quality requires the writer to have knowledge of the content and a solid understanding of its parts. Writing of a high quality also necessitates the writer’s competence to employ cohesive devices, in order to articulate this understanding.

It is worth noting that the NAPLAN marking rubric closely aligns with Witte and Faigley’s findings. For example, higher scores in the criteria require students to demonstrate competent use of a range of cohesive devices in “tightly linked sections of text”, as it is phrased in the NAPLAN marking rubric (p.11). Furthermore, the two top scores in the criteria require that the writing sample constitutes “a sustained piece of writing” (p. 11). This consideration corresponds

with the study by Witte and Faigley (1981), which found that essays of a high quality were longer and contained many more connective ties between ideas than writing of a poor quality.

Before examining this study's quantitative results by comparing the SDA and the TDA students' *Cohesive* scores, the qualitative indications of students' awareness of cohesion is examined. For this purpose, the main source of information is the students' planning templates. Social cognitive researchers such as Zimmerman argue that self-regulation is a cyclical three-phase process, which begins with the forethought phase. This first phase of self-regulation involves learners analysing the task and identifying goals and strategies appropriate for the task (Zimmerman & Kitsantas, 2005). As such, the SDA planning templates provide valuable insight into the students' intentions to address cohesive aspects of their writing.

#### *Cohesion identified as a goal in students' planning templates*

The SDA planning templates had been developed specifically for the SDA students in years 2, 4 and 6, and differed in respect of the stated learning outcomes from the curriculum. There was also some variation in regard to layout, with the Year 2 template being set in larger font, and with suggestions for students to consider as they developed their checklists of goals to keep in mind.

With respect to cohesion, the variation is important because the Year 2 template did not explicitly contain suggestions relating to cohesion. However, the *structure* column of suggestions on the Year 2 planning template (see Appendix H) included questions aimed at helping students to develop cohesion in their writing.

The Year 4 and the Year 6 templates comprised a greater number of prompting questions, such as: ‘Does my writing make sense?’ and ‘Is it clear who is speaking?’ aimed at cohesive considerations.

In regard to students’ identification of cohesion among their writing goals, none of the Year 2 SDA students’ templates stated goals relating to cohesion. However, comments made by students in interviews indicate a cohesive awareness; for example, by reflecting whether their text ‘made sense’:

Anna: Was there anything in particular that you really tried to keep in mind [when planning your text]?

Clive: Nice writing...

Anna: Okay...

Clive: And structure. Also, if it made sense.

*Follow-up interview with Clive, Year 2 SDA student, October, 2009*

In contrast to the Year 2 students’ planning templates, cohesive goals were clearly identified on the Year 4 and Year 6 students’ checklist of goals. In Year 4, 30% of the students indicated in their planning that the student would check that their writing made sense. In Year 6, the cohesive goals were more diverse and included plans to pay particular attention to their use of pronouns. In addition, nine students planned to check that they included ‘clear information’ (23.7%), which was interpreted here as an intention to check that ideas were logically presented.

*The NAPLAN Cohesion criteria*

With respect to the NAPLAN marking criteria of *Cohesion*, five scores are possible (see Appendix K). A score of 1 is used for scripts, in which links are missing or incorrect. Very short scripts are also scored 1. For a score of 2, the students demonstrate some correct links between sentences (without reference to poor punctuation), with most referring words accurate. At this level, “the reader may occasionally need to re-read and provide their own links to clarify meaning” (MCEETYA, 2008b, p. 11). Writing samples that consist of one handwritten page or longer, in which correct cohesive devices support reader understanding and the writer demonstrates accurate use of referring words, are scored 3. For the highest score, 4, the student demonstrates a range of cohesive devices which are used correctly and deliberately through consistent use of word associations and substitutions to enhance the reading. At this level, the text forms an “extended, highly cohesive piece of writing showing continuity of ideas and tightly linked sections of text” (MCEETYA, 2008b, p. 11).

*Comparison of Cohesion scores*

The comparison of means and standard deviation in the SDA and TDA students’ test scores in the *Cohesion* criteria indicated that this was one of the criteria in which the smallest levels of change occurred across the cohort (see tables 6.7 and 6.8).

Table 6.7: Difference between SDA and TDA students' pre-test and post-test scores in Cohesion

	NAPLAN CRITERIA	SDA		TDA		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Cohesion (pre-test)	2.03	.45	2.14	.52	-.23
	Cohesion (post-test)	2.11	.52	2.24	.49	-.26
Yr. 6	Cohesion (pre-test)	2.32	.62	2.33	.47	-.02
	Cohesion (post-test)	2.57	.67	2.23	.82	.46

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n = 29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

Table 6.8: Difference between SDA and TDA students' pre-test and post-test scores in Cohesion

	NAPLAN CRITERIA	Post-test		Pre-test		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Cohesion (SDA)	2.11	.52	2.03	.45	.16
	Cohesion (TDA)	2.24	.49	2.33	.47	.20
Yr. 6	Cohesion (SDA)	2.57	.67	2.32	.62	.39
	Cohesion (TDA)	2.23	.82	2.33	.47	-.16

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n = 29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

These results indicate while there was not much difference between the two groups in Year 4 in respect to competence development in *Cohesion*, the Year 6 SDA students demonstrated stronger development and tighter cohesive links between different ideas in their writing sample, compared to their Year 6 TDA peers. The result also points to greater competence in the SDA students' use of referring words, compared to the TDA students' use of this cohesive device. In

addition, the Year 6 SDA group's higher mean score of 2.57 suggests that their writing samples were more sustained and longer. Previous research into cohesion in essays has found that writers of high-quality responses write longer essays, with a higher number of cohesive links present than less competent writers (Witte & Faigley, 1981).

#### **LEARNING STRATEGIES NEEDED TO DEVELOP COMPETENT PUNCTUATION**

Punctuation aids smooth reading of a text. In regard to the marking criteria, this skill focus is centred on students' ability to demonstrate competence in their application of correct and appropriate punctuation to assist efficient reading (MCEETYA, 2008b).

It is worth noting that the terms 'correct' and 'appropriate' allow students to use punctuation both in the conventional sense, and to demonstrate their rhetorical choices. Cornelia Paraskevas provided a helpful metaphor of conventions by how they "serve as road maps that guide readers or road signs that tell readers when to come to a complete stop, yield, pay attention and to skim over the text" (Paraskevas, 2004, p. 41). Punctuation that breaks the conventions therefore needs to be interpreted; it may be due to error, or it may be a rhetorical choice (Dawkins, 1995; Heveron-Smith, 2012; Paraskevas, 2004). As a rhetorical marker, John Dawkins (1995) posited that a writer's application of punctuation marks creative choices—and good writers frequently break the conventions. "Conventional punctuation is grammar based—marks are prescribed in terms of grammatical

structure—but what "good writers" do, writers like Orwell, is punctuate according to their intended meaning, their intended emphasis” (Dawkins, 1995, p. 534).

The judging of a student’s ability to apply correct and appropriate punctuation therefore requires nuanced and holistic considerations. As in all aspects of the analysis of the writing samples in the SDA study, the NAPLAN marking rubric was used to score the writing samples. Consequently, it is important to clarify the level of nuance accommodated in the rubric. A description of the punctuation criteria follows below.

#### *Punctuation in the NAPLAN rubric*

Good writers, as Dawkins (1995) argued, may break the punctuation conventions, and the NAPLAN punctuation criteria appear to follow the adage: ‘learn the rules before you break them’. The score range in the category goes from 0 to 5, with the lower scores focusing on correct noun and sentence punctuation. For scores above 3, the criteria includes the students’ use of ‘other punctuation’ such as *apostrophes, commas, hyphenation, quotation marks* and *points of ellipsis*, to name a few examples.

#### *Punctuation goals on the planning templates*

Students from all three year levels identified punctuation goals on their planning templates. Overall, 18% of the Year 2 planning templates contained punctuation goals, which the students wrote down as part of the forethought step of the learning process (Zimmerman, 2000). However, in the self-reflection section, which students completed after they had finished the writing project, nineteen out

of forty-eight (39.6%) of the Year 2 planning templates identified punctuation as an area that the student thought was particularly successful (18.8%), or needed to improve (20.8%).

For example, one student stated in their self-reflection that they needed to improve their use of speech marks. On the list of goals, made by the student as part of the strategic planning phase (Zimmerman, 2000), speech marks did not feature. Not wishing to draw too strong a conclusion of the emergence of speech marks as an area of punctuation for this particular student to improve in, it nevertheless supports this thesis's argument that the SDA uses assessment as a meaningful learning process.

It also connects with how the SDA process encourages and prompts 'point-of-need teaching', with an individual student's zone of proximal development (Vygotsky, 1978). As Heveron-Smith (2012, p. 103) has argued, it is challenging for teachers to strike a balance between the next steps of learning and students' present understanding: "Although we always need to be sensitive to readiness, we should ultimately hold nothing back from our writers. Punctuation is an important tool of expression". It would appear that when students direct their writing assessment as part of an integral learning process, the students' readiness becomes the very platform from which learning springs. As such, the SDA process enables learning to be meaningful to the individual student. Learning becomes focused on advancing the individual student's understanding within their zone of proximity

(Vygotsky, 1978), by scaffolding help-seeking (Butler, 2006) and students' skill and will (Weinstein, et al., 2011) to undertake learning actions for progress.

To return to the students' planning templates, punctuation also featured in the Year 4 and Year 6 templates, both as stated sub-goals as well as in the self-reflection. The students' identification of goals appears to support the notion that the SDA process reciprocates with the students' individual learning readiness. The younger student groups had a higher proportion of students identifying and reflecting on punctuation as a particular element of their writing. By contrast, the Year 6 students' goals were more concerned with other aspects of writing such as text structure which, in total, featured as 102 goals across the forty Year 6 SDA templates (268%). Other common Year 6 goals were vocabulary goals (75%) and reminders for students to themselves to check their construction of paragraphs (47.4%).

#### *Comparison of results in the Punctuation criteria*

In respect to statistical results in *Punctuation* both the Year 4 and Year 6 SDA groups showed small to moderate effect sized of greater competence compared to their TDA peers (see table 6.9). However, the greatest change was manifested particularly in very large effect size of development in the Year 4 SDA group (see table 6.10).

Table 6.9: Difference between SDA and TDA students' pre-test and post-test scores in Punctuation

NAPLAN CRITERIA		SDA		TDA		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Punctuation (pre-test)	2.05	.88	2.21	.77	-.19
	Punctuation (post-test)	2.89	.56	2.67	.75	.34
Yr. 6	Punctuation (pre-test)	2.60	.82	2.60	.88	.00
	Punctuation (post-test)	2.93	.90	2.55	.92	.42

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

Table 6.10: Difference from pre-test to post-test scores in students' Punctuation scores

NAPLAN CRITERIA		Post-test		Pre-test		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Punctuation (SDA)	2.89	.56	2.05	.88	1.17
	Punctuation (TDA)	2.67	.75	2.21	.77	.61
Yr. 6	Punctuation (SDA)	2.93	.90	2.60	.82	.38
	Punctuation (TDA)	2.55	.92	2.60	.88	-.06

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

### *The punctuation criteria and the merits of mixed-methods research*

The differences in competence development revealed by the statistical analysis of students' scores in the marking criteria of *Punctuation* was illustrated in the students' planning templates, which provided a valuable reflection of students' awareness of punctuation features. The templates indicated students' individual

levels of readiness to challenge their understanding of the concepts and skills associated with punctuation beyond the level of their peers.

Students' goals on the planning templates, in combination with the teachers' reflections of how point-of-need teaching appeared to be stimulated by the SDA process, are obviously an important indicator of how SDA shapes students' learning, despite the lack of statistically significant results in respect of comparing results between the TDA students and the SDA students.

#### **LEARNING STRATEGIES NEEDED TO DEVELOP COMPETENT USE OF VOCABULARY**

The use and precision of language choices defines the NAPLAN criteria of *Vocabulary* (MCEETYA, 2008b). In respect of the themes of this thesis, vocabulary can be classified as both an expression of creativity, as well as one of competence in a technical sense. For example, research into creativity has found vocabulary to be associated with factual detail and technical goodness (Hennessey, 2003; Hennessey & Amabile, 1988), which supports this study's categorisation of vocabulary as a technical aspect of writing. From a competence perspective, it is also a good fit, as the level of preciseness in a student's choice of words is at the epicentre of the *Vocabulary* criteria. In the NAPLAN marking rubric, vocabulary is judged according to the number of precise words the writing contains. An example of a precise word is 'clutch' rather than 'take'; the latter being a word in its most basic form.

*Vocabulary goals on the planning templates*

Students' awareness of the importance of precise word choices was manifested on the planning templates. For example, students identified intentions to use *descriptive words, rhyming words, adjectives, and command verbs*. Of these, particularly the nomination of 'rhyming words' and 'command verbs' indicate metacognitive knowledge activation (Pintrich, 2004) and self-regulation with respect to task analysis and strategic planning (Weinstein & Hume, 1998b; Zimmerman, 2008a) because they explicitly connect with two specific types of text: poetry and procedures. The students' planning templates also indicated the intention well as goals to *vary vocabulary*.

*Statistical findings in the Vocabulary criteria*

The comparison of post-test scores showed a large effect size of greater competence among the Year 6 SDA students (see table 6.11), compared to the TDA students in the same year level. This finding suggests that the Year 6 SDA group's writing samples displayed more "sustained and consistent use of precise words and phrases that enhance the meaning or mood" (MCEETYA, 2008b, p. 10) compared to the Year 6 TDA samples.

This greater level of competence among the Year 6 SDA group was further evidenced when the level of growth from the pre-test to the post-test was compared. In regard to level of growth, there was no difference between the SDA and the TDA groups, at the Year 4 level. However, in Year 6, the SDA group

demonstrated twice the level of growth compared to the TDA group (see table 6.12).

*Table 6.11: Difference between SDA and TDA students' pre-test and post-test scores in Vocabulary*

NAPLAN CRITERIA		<u>SDA</u>		<u>TDA</u>		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Vocabulary (pre-test)	2.18	.38	2.21	.41	-.08
	Vocabulary (post-test)	2.89	.66	2.93	.59	-.06
Yr. 6	Vocabulary (pre-test)	2.66	.74	2.43	.34	.43
	Vocabulary (post-test)	3.41	.96	2.70	.89	.77

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

*Table 6.12: Difference from pre-test to post-test in students' Vocabulary scores*

NAPLAN CRITERIA		<u>Post-test</u>		<u>Pre-test</u>		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Vocabulary (SDA)	2.89	.66	2.18	.38	1.37
	Vocabulary (TDA)	2.93	.59	2.21	.41	1.44
Yr. 6	Vocabulary (SDA)	3.41	.96	2.66	.74	.88
	Vocabulary (TDA)	2.70	.89	2.93	.59	.44

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n =29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

Overall, students across the three year levels demonstrated the ability to strategically plan by stating the intention to use precise vocabulary, aimed at showing technical goodness and competence in their writing. In the case of the Year 6 SDA group, this intention resulted in substantially higher achievement in

the marking criteria of *Vocabulary*, compared to their peers in the TDA group. This again connects with the deliberate goal-setting associated with SRL (Perry, et al., 2007; Zimmerman & Bandura, 1994) and the effect of intrinsic motivation on performance (Pintrich, 2003), as discussed in Chapter 3.

However, in the Year 4 cohort, the same goal-setting and intention to use descriptive and precise words did not result in a statistically significant difference between the SDA and the TDA students. As noted previously in Chapter 5, this is likely to have been an effect of behavioural factors in respect of the teachers.

*Teachers' choices and behaviour: a situational influence on the students' learning*

In respect of the link between the students' intentions, as indicated on the planning template, and the translation of these goals into action, as demonstrated in the writing sample as a product, it is important to point out that the statistical analysis only indicates whether or not there was a statistically significant difference in achievement between SDA students and TDA students. Consequently, it is perfectly possible that students fulfilled their forethought of addressing particular goals during the performance phase of the learning process, but that this did not generate a statistically significant difference in comparison to the TDA students' achievement.

Nevertheless, the discussion now turns to the teacher's role as a situational influence in the triad of reciprocating forces at play in the SDA learning process.

Three elements—time, confidence and experience—stand out, when comparing the Year 4 SDA teachers’ approach to conducting the assessment project with the Year 6 SDA teachers’. First of all, time allocation was a marked difference. While the teachers in both Year 4 and Year 6 SDA groups appeared to allow a similar amount of time to introduce the project and support students while they identified goals aimed to prompt SRL; clear differences emerged in the later phases. Three of the Year 6 SDA teachers, including Monica below, commented in their interviews that the writing project took longer than they had anticipated:

It really helped to have the assessment criteria (outcomes) that they had written themselves to refer back to. I regularly checked that the students had referred back to their outcomes. I said at the beginning that we would work on the project for three weeks, but I have found that in two weeks the majority of the kids have only done their planning and their written copy. I am not sure at this stage if the students will be able to complete the project in three weeks as originally planned.

*Email from Monica, Year 6 SDA teacher, October 2009*

Surprisingly, and contrary to the typical time-poor teacher stereotype, none of the three Year 6 SDA teachers expressed concern about this. Instead, they commented on how they could see that the students were engaging in deep and meaningful learning, which they reasoned was of great benefit to the students. Therefore, the teachers made the conscious decision to allow the writing projects to go on for longer than they originally had intended. Again, this is illustrated by a quote from Monica:

The project took longer than expected. We spent practically the whole term on the project. I do not think it could have been done any faster.

As mentioned before I thoroughly enjoyed the writing project and will definitely do it again next year.

*Follow-up email from Monica, Year 6 SDA teacher, December, 2009*

Such confidence in the teacher's own judgement is markedly different from the Year 4 SDA teachers, who had less experience and who expressed concern about having time to fit in the curriculum in their interviews. Consequently, the SDA writing process was quite rushed. For example, one of the Year 4 SDA teachers, Robin, introduced the project and template in one lesson. The writing session followed on a different day, but the writing session was conducted in one lesson, mimicking the NAPLAN testing format, in which students have fifty minutes in total to construct their writing sample. Thus, Robin used the assessment as a snapshot of students' learning, rather than as a deep, 'assessment for learning' process. While the students still made choices in respect of what texts they would write, these choices were strongly influenced by the time limitations placed on the performance phase, to use a term from the SRL cycle.

Certainly, the teachers' different interpretations and approaches to conduct the SDA process could have been avoided if the teachers had been given a guideline of how to conduct the SDA process. However, the study's intention was not to 'tell teachers what to do'. On the contrary, while the learning outcomes were always explicit because they were taken straight from the syllabus, the study

adopted an open, interpretive approach with respect to developing its understandings of how the SDA approach shapes students' (and teachers') learning. Just like the students were prompted to engage agentially in the learning process, by making choices and contributing to the flow of instruction, so were the teachers who participated in the study.

Alex, another of the Year 4 SDA teachers, like Robin, adopted a summative approach to the project. In addition to time limitations, Alex's comments in the follow-up interview suggested a focus on performance goals by drawing attention to results, rather than mastery goals centred on learning (Dweck, 2000):

Anna: Do you think that it made them aware of the learning outcomes, the whole exercise?

Alex: I don't know. I don't know, maybe I didn't push it enough. Because I did give it to them the last week, the last thing. But I did try and say: this is what I am marking you on, so this is what you need to show...

*Follow-up interview with Alex, Year 4 SDA teacher, October, 2009*

Alex commented in the same interview that the students had found the planning process challenging. In particular, several students had found it difficult to understand that the planning template was intended to help them develop a checklist of what to keep in mind in the writing assessment, rather than a template to construct writing drafts on. Again, Alex mentioned time restraints, stating in

the follow-up interview: *“They probably would’ve gotten there, if we had spent more time on it.”*

By contrast, the Year 6 SDA teachers extended the time they had originally allocated for their students to complete their assessment task, which presents a reliability issue and limits the statistical significance of this study’s findings. Despite that, the findings are still informative. Indeed, as a mixed-method study, the intention was from the outset to gain a rich, authentic understanding of how students’ learning is shaped in a process that is focused on using assessment as a meaningful learning process, and not to conduct a laboratory test.

To explore the relationship between students’ forethought stage in the SRL process and the impact of adaptive help-seeking as part of assessment as learning, a consistent timeframe needs to be exercised by both experimental and control groups in future studies. However, this may hamper the dynamic and meaningful teaching opportunity the Year 2 and Year 6 SDA teachers so readily identified as one of the greatest benefits of the SDA approach.

Clearly, this is an area for future research to explore in more detail. The aim of this thesis is to explore SDA as a learning process, which the qualitative findings suggest occurred most successfully in the Year 2 and Year 6 classes. This is further supported by the quantitative findings, which strongly indicate that the SDA assessment process led to significant differences in students’ achievement, particularly in year levels where the teachers used it as a formative, student-centred approach to learning.

## LEARNING STRATEGIES NEEDED TO SPELL COMPETENTLY

The last of all the NAPLAN marking criteria is *Spelling*. In this criterion, students' competence in spelling is assessed according to the degree of accuracy and level of difficulty in the words' spelling patterns. The spelling patterns in the NAPLAN rubric are divided into four groups: *simple*, *common*, *difficult* and *challenging* words (see Appendix K). To aid marking in the *Spelling* criteria, the NAPLAN marking guide includes a six-page spelling reference list (MCEETYA, 2008b), in which words have been organised alphabetically across the four spelling groups.

### *The NAPLAN marking criteria for Spelling*

*Spelling* is one of the most wide-ranging score criteria in the NAPLAN marking rubric (2008), with scores spanning from 0 to 6 (see Appendix K). In essence, students' scores in the marking criteria of *Spelling* are dependent on the demonstrated level of accuracy in spelling, as well as the complexity of spelling patterns in the words chosen. Thus, the criteria of *Spelling* demand students to demonstrate competence in applying spelling rules, which in itself is a cognitive process. However, given that the higher scores require students to demonstrate accuracy in spelling words with complex spelling patterns, the students also need to demonstrate a notable degree of sophistication in their language choices. As such, this category is connected to the *Vocabulary* category. However, it is possible for students to achieve a high score in *Vocabulary*, if they use carefully crafted words, be they accurately spelled or not. By contrast, the criteria of *Spelling* require competence in accurate spelling and complexity in word choices.

*Spelling competence as a mechanical skill*

Research into writing development has found that spelling ability is related to both composition length and quality (Graham, Berninger, Abbott, Abbott, & Whitaker, 1997). The study by Graham et al. (1997) used multi-group structural equation modelling to analyse the mechanical skills of writing among 600 students in grades 1 to 6 who wrote narrative and expository texts. The study found spelling, together with handwriting, to be a predictor of the number of words written by students (composition fluency) in the primary grades.

A later study further explored how different instructional protocols impact on text generation (Berninger, Vaughan, Abbott, Brooks, Abbott, Rogan, Reed & Graham, 1998), suggesting that beginning writers need to focus on spelling as well as the cognitive processes of writing, to improve their written compositions. This research into spelling as a component of functional writing (Berninger, et al., 1998; Graham, et al., 1997) was conducted in response to the minimisation of explicit spelling instruction in the early 1990s. At the time, natural learning approaches to spelling (Bean & Bouffler, 1987; Wilde, 1990, cited in Graham, 2000) encouraged students to be immersed in literature-rich environments, in which formal instruction of spelling only occurred when prompted by the student's need.

While the SDA process certainly does encourage such point-of-need teaching, it is important to clarify that the study was conducted at a school, at which spelling was taught explicitly. Thus, the point-of-need-teaching in the SDA process

functioned as an additional opportunity to reaffirm the spelling strategies already taught. It is again an example of the connection between the teaching/assessment as learning context and its prompting of students to apply cognitive process strategies (Flower, 1989).

### *Comparison of Spelling scores*

The statistical analysis of students' scores in spelling indicated that this, along with cohesion, was one of the criteria in which the least change occurred in respect to growth. However, a comparison of post-test scores indicates that the Year 4 SDA students demonstrated a higher degree of accuracy in spelling, as well as greater competence in spelling words with difficult spelling patterns, compared to the TDA group (see table 6.13).

*Table 6.13: Difference between SDA and TDA students' pre-test and post-test scores in Spelling*

		<u>SDA</u>		<u>TDA</u>		
NAPLAN CRITERIA		Mean	SD	Mean	SD	<i>d</i>
Yr. 4	Spelling (pre-test)	2.58	.75	2.55	.63	.04
	Spelling (post-test)	2.78	.53	2.74	.49	.08
Yr. 6	Spelling (pre-test)	3.34	.78	3.14	.56	.30
	Spelling (post-test)	3.58	.85	3.04	.84	.64

Notes.

Year 4 SDA (n = 40), Year 4 TDA (n = 29)

Year 6 SDA (n = 76), Year 6 TDA (n = 84)

The level of growth between the pre-test and post-test was found to be small across the four groups (see table 6.14). Nevertheless, the effect size between post-test scores in the Year 6 SDA and the TDA groups suggests that the forethought and performance steps in the SDA process, which involved students in planning and directing their assessment, supported them in self-regulating their behaviour and stimulated the students' metacognitive engagement.

*Table 6.14: Difference from pre-test to post-test in students' Spelling scores*

NAPLAN CRITERIA		<u>Post-test</u>		<u>Pre-test</u>		<i>d</i>
		Mean	SD	Mean	SD	
Yr. 4	Spelling (SDA)	2.78	.53	2.58	.75	.31
	Spelling (TDA)	2.74	.49	2.55	.63	.34
Yr. 6	Spelling (SDA)	3.58	.85	3.34	.78	.29
	Spelling (TDA)	3.04	.84	3.14	.56	-.14

Notes.  
Year 4 SDA (n = 40), Year 4 TDA (n = 29)  
Year 6 SDA (n = 76), Year 6 TDA (n = 84)

This finding which in Year 6 indicates that students who played a less active role in planning and directing their assessment through the SDA process, aligns with previous SRL research which, as explained in Chapter 1 and discussed in Chapter 3, has established strong links between students' ability to self-regulate their learning and successful academic performance. By emphasising the process of goal-setting, implementation of learning strategies and self-evaluation, the SDA approach draws heavily on SRL theory, in which these elements are essential to enhance learning (Beishuizen & Steffens, 2011; Paris & Newman, 1990; Pintrich,

2004; Schunk & Zimmerman, 2003; Zimmerman, 1990; Zimmerman & Bandura, 1994).

### **KEY UNDERSTANDINGS**

While the SDA process from the outset was aimed to stimulate self-regulatory behaviour and metacognitive engagement in students, strong findings in distinctly technical aspects of writing—such as the criteria discussed in this chapter—were not anticipated. Certainly, the study originated from my own practice-based belief that students learn better when they play an active role in determining their assessment. As a mixed-methods study, the aim was to *confirm and discover* (Bryman, 2006) if this notion was valid.

The findings paint a complex picture, in which the SDA approach presents a scaffolded and highly individualised form of goal-directed learning by design (Wiggins & McTighe, 2005, 2008). This in itself constitutes an auspicious pedagogical approach, which fuses SRL, student choice, as well as competence and motivation theories into a structured format, as manifested by the planning template.

While the qualitative data alone does confirm my original notion, developed over years as a middle-primary teacher, that students learn better when they play an active role in their learning and when assessment is used in a constructive manner *as learning* (Earl, 2003, 2006, 2013). The complementary quantitative approach brought forward a more comprehensive understanding of whether the self-

regulatory behaviours students display when they direct their assessment, in fact also impact on the results.

For the quantitative analysis, it seemed particularly appropriate to use the very test which in Australia has come to exemplify the quantitative approach to assessment for accountability. Why not allow this assessment tool to provide the detailed framework with which to analyse the students' writing samples from the quasi-experimental writing project?

Through the statistical analysis comparing students' scores in the ten writing criteria, I feel comfortable drawing the following conclusion. The results strongly suggest that SDA approaches clearly have a beneficial effect on students' learning, as demonstrated by the post-test score comparisons. The project was most successfully carried out in the Year 2 and Year 6 classes. As explained earlier in this thesis, the Year 2 scores were omitted from the statistical analysis because no existing NAPLAN pre-test existed for the group. However, with the Year 6 comparisons showing statistically significant differences in nine of the ten criteria, the quantitative results were stronger than I had anticipated. The Year 6 SDA students' higher performance than the Year 6 TDA students in six of the seven technical criteria was, I admit, beyond my expectation.

This does by no means suggest that students learn best by themselves, without teachers' detailed instruction. To the contrary, I would argue that the higher results achieved by the SDA students was precisely due to teachers' detailed instruction. The key is that students, by taking charge of their learning and

directing their assessment, were receptive and sought help from their teachers when they needed it. Consequently, teaching became more individualised and tailored around the students' focused learning need, bridging the zone of proximity (Vygotsky, 1978) by providing help to the student to achieve what they are not yet able to do independently.

Another conclusion can be drawn, which is poignant at this time in Australia when the assessment discourse largely is focused on the NAPLAN and dominated by an accountability focus. When assessment is used in a constructive, meaningful manner—when assessment is used to articulate students' awareness of the deep and complex learning goals that the curriculum constitutes—then assessment becomes a rich and dynamic form of learning at its best.

## Chapter 7: Using assessment to motivate and engage students

This chapter examines the third theme, which explores the use of assessment to motivate and engage students in learning. Its purpose is to explore the central question of how Student-Directed Assessment (SDA) shapes learning, with particular links to the second research question's focus on how students engage in learning when they are able to identify their own learning goals, and determine sub-goals for their progress towards their mastery of the learning outcomes. As in the previous two chapters, the study's qualitative and quantitative findings are synthesised into a thematic discussion, which is linked to common understandings from research into Self-Regulated Learning (SRL) in combination with formative assessment practices that promote student agency.

The chapter begins by outlining the multidimensional concept of engagement. The discussion then turns to examining how the SDA students engaged in their learning by exercising control in their learning through self-efficacy (Bandura, 1997), which reconnects with the previous chapter on how the SDA helped foster students' development as competent learners. The discussion about competence was related to students' performance with respect to demonstrating technical writing skills. However, as Bandura described it in a more recent paper, “[p]erformance is not an isomorphic reflection of ability. Performance is heavily influenced by many motivational and self-regulatory determinants” (Bandura, 2012, p. 24). One of these key motivational determinants is *self-efficacy*, which denotes the beliefs people hold

about their academic capabilities and about the outcomes they expect to reach through their efforts (Usher & Pajares, 2008, 2009), a notion first introduced by Bandura (1977).

To better understand the differences found between the SDA groups of students and the Teacher-Directed Assessment (TDA) groups in respect of their demonstration of competence as writers, it is therefore necessary to explore the students' motivational determinants. Self-efficacy affects both prior and future performance (Feltz, Chow, & Hepler, 2008), and self-efficacy is largely correlated with academic performance (Bjørnebekk, et al., 2013; Richardson, et al., 2012; Usher & Pajares, 2009). The chapter begins by discussing the four interrelated aspects of student engagement, which together constitute Reeve's framework for agentic engagement (Reeve, 2012; Reeve & Tseng, 2011).

#### **ENGAGEMENT AS A MULTIDIMENSIONAL CONSTRUCT**

As stated in the literature review in Chapter 3, 'engagement' in an educational context, is a concept that explores how students behave, feel and think with respect to participating in academic activities (Fredricks, et al., 2004). This thesis adopts the conceptual model of engagement proposed by Reeve and Tseng (2011), which is grounded in self-determination theory (Deci & Ryan, 2002) and identifies four distinct but highly interconnected aspects: behavioural engagement; emotional engagement; cognitive engagement; and agentic engagement. A brief outline of each of these four interrelated forms of engagement now follows.

### **Behavioural engagement**

Behavioural engagement entails participation (Fredricks, et al., 2004) and students demonstrating that they are involved with the task, paying attention and persevering with their efforts to learn (Reeve, 2012). From a teacher's point of view, gauging behavioural engagement is quite simple because it relates to observed behaviour, rather than the more complicated and subjective aspects of what a student is actually thinking and feeling about a task.

With respect to this study, the students had ample opportunity to show behavioural engagement throughout the process; from the very beginning when they were introduced to the study and posed questions about it before beginning to plan their assessment, to when they filled out their self-reflection at the end of the project.

### **Cognitive engagement**

While behavioural engagement indicates that a student appears to be on task, cognitive engagement goes deeper. The term refers to how strategic the student is in their application of appropriate learning strategies and how they self-regulate their learning actively in respect of monitoring their understanding (Appleton, et al., 2006; Reeve, 2012). The notion of cognitive engagement also draws on the idea of investment, in the form of thoughtfulness and willingness to exert the effort necessary to comprehend complex ideas and master difficult skills (Fredricks, et al., 2004).

Below are two descriptions of student engagement from interviews with SDA teachers. In the first account, Emma's comments mainly indicate that she noticed

behavioural aspects of engagement from her students. However, her comments also allude to SRL, as she suggests that students' awareness of the task requirements contributed to them engaging with the task:

Anna: Did you think that [your students] seemed engaged when they wrote their writing piece?

Emma: Yes they did really well. Like there was no talking, or carry on, or anything... I think that once they knew what they had to do...

*Follow-up interview with Emma, Year 2 SDA teacher, October, 2009*

Different aspects of students' engagement are reflected in Sam's account below. Sam's description articulates references to cognitive engagement, as it recounts several examples of students applying learning strategies to self-regulate learning. Interestingly, this account also illustrates how teachers may find it difficult to notice cognitive engagement, as they busily make sure that students complete the tasks, which are supposed to scaffold understanding:

Anna: Did you find that the students were aware of the writing outcomes; that they knew what they were actually trying to demonstrate?

Sam: ... Probably not so specifically. Oh... It's hard to know. Because we've gone through all the different genres and explained how to write each genre, what's required of each genre, uhm... But I don't know if... It probably helps them, writing it down: 'what is required of me in this task', and writing it down, having it clear, looking back to it all the time. Rather than me just going: 'this is a procedure'; 'this is what is required on a procedure'; 'here's an example, now it's your turn to write one'.

Anna: So, less spoonfeeding?

Sam: Yes! Much less spoonfeeding. Although it did require spoonfeeding in helping them fill in [the planning template], then it was... yeah. You could see the cogs turning a bit more.

*Follow-up interview with Sam, Year 6 SDA teacher, October, 2009*

The role of the SDA planning template, as a tool to scaffold students' cognitive engagement by requiring them to identify and list the strategies they intended to employ in pursuit of the overall learning goals, is also evident in Sam's reflection. In respect of scaffolding students into developing independence as strategic, cognitively engaged learners, the segment above also illuminates how the learning process in SDA is characterised by the idea of reciprocal interplay among behaviour, cognition and social influences (Bandura, 1997, 2006). In this case, social influences in the form of the teacher helping the individual student develop a strategic plan of action by setting up partial goals stimulates students to cognitively engage with the task.

At the same time, this process bears the hallmarks of SRL as it stimulates help-seeking (Butler, 2006; Karabenick & Berger, 2013; Ryan & Shin, 2011), or, as Sam put it; "*spoonfeeding in helping them*" while students actively plan their learning by identifying strategies.

As Skinner and Pitzer (2012) argued, teachers have a key role in facilitating students' engagement by setting challenging tasks that encourage students to play an active role, which is supported through teacher feedback and instruction. This is precisely

what the SDA aim is: to stimulate and scaffold students to become active learners, who cognitively engage in tasks by actively seeking help, setting goals and planning strategically as part of the forethought step in the SRL cycle (Karabenick & Dembo, 2011; Zimmerman, 2000, 2011).

### **Emotional engagement**

The SDA approach sets out to engage students beyond encouraging them to ‘switch their brains onto learning’. By requiring students to make choices and allowing their personal interest to spur on learning, the aim is to make it an emotionally meaningful learning process. Emotional engagement is indicated by positive emotions during task involvement such as curiosity and enthusiasm (Reeve, 2012, 2013). In the SDA context, the students demonstrated enthusiasm and creativity in their approaches to addressing the task, as previously discussed in Chapter 5.

For a task to incite such feelings in students, the task at hand needs to be seen by the student to be of value, resulting in anticipated enjoyment and engagement and interest (Anmarkrud & Bråten, 2009; Eccles, 2005). Nonetheless, interest is not static. Mary Ainley (2012), who examined interest as a key motivational construct for engagement in classroom activities, argued that students’ level of task interest and its relation to engagement may fluctuate. While tasks that appear attractive and novel to students may grab their attention and trigger situational interest, extended interest requires the student to combine their individual knowledge, value and emotions (Ainley, 2012; Hidi & Renninger, 2006; Schiefele, 1991). This, in turn, connects to SRL and self-direction (Loyens, Magda, & Rikers, 2008; Robertson, 2011), as Ainley (2012), along with Hidi and Renninger (2006), emphasise that the

development of extended individual interest is manifested in the student seeking opportunities to engage and re-engage with content by combining knowledge, value and affect.

Later in this chapter, task value and students' emotional engagement in the form of pride is discussed at some length. Before leaving the discussion of engagement as a multidimensional construct, it is important to define what perhaps is the most important dimension of engagement in respect of the SDA, namely the emerging construct of agentic engagement (Reeve & Tseng, 2011).

### **Agentic engagement**

The established construct of engagement has recently been expanded beyond the three areas of behaviour, cognition and emotion (Fredricks, et al., 2004). Reeve has forwarded a convincing—and for this thesis, highly significant—point that the previous conceptualisation of engagement is incomplete in relation to a task-specific event such as a lesson, because it does not take the students' contribution into account:

[A]ny focus on students' behavioral, emotional, and cognitive engagement during a learning activity unwittingly embraces a unidirectional flow of instructional activity from the teacher to the student, as the teacher says "Here is an assignment for you" and students respond with some display of behavioural, emotional, and cognitive engagement. What is missing from such a conceptualization of student engagement [... is] students'

constructive contribution into the flow of instruction they receive, as students try to enrich and personalize that instruction.

(Reeve, 2012, p. 161)

It is through active, constructive contribution to instruction that students exercise agency through engagement; an idea that goes to the core of SDA because the very process is centred on the students' active role in the learning process. The idea that students 'enrich and personalise' instruction by exercising agentic engagement is at the forefront of SDA. Indeed, the whole SDA process is underpinned by this form of engagement, from its initial step when students interpret what exactly they will do to address the learning outcomes. The choices of text, audience and goals that students make as they plan their assessment are the very manifestation of agentic engagement, and it not only 'contributes' to the flow of instruction—the flow of instruction follows the choices that the students have made as they seek to address the learning goals stated in the curriculum.

Reeve, who is a key contributor to this emerging field of engagement research, draws on understandings from self-determination theory (Deci, et al., 1991; Reeve, et al., 2004; Ryan & Deci, 2002; Vansteenkiste, et al., 2010), which has informed longitudinal classroom-based studies, using behavioural observation (Cheon & Reeve, 2013; Reeve, et al., 2004) and self-report questionnaires (Cheon & Reeve, 2013; Lee & Reeve, 2012; Reeve & Lee, 2014; Reeve & Tseng, 2011). Such research has revealed three important functions of student engagement. First, agentic engagement relates to student achievement; second, it impacts on students' self-regulatory behaviours in respect of changing their learning environment; and third,

agentic engagement involves students taking action to learn to address psychological needs. As such, the research into agentic engagement bears strong connections with the findings in this thesis, namely that SDA has a significant impact on students' achievement with respect to developing competence and self-regulation skills as learners, as discussed in Chapter 6. Students taking action to address their psychological needs by including autonomous approaches to learning is discussed in this chapter, and also in Chapter 5, where students' personal needs, values and interest were discussed in relation to creativity.

While self-determination theory has framed Reeve's understandings about agentic engagement, the discussion in this chapter will now return to its theoretical underpinning by outlining motivational determinants from a social cognitive perspective, before continuing to discuss this study's findings.

### **MOTIVATIONAL DETERMINANTS**

Social cognitive theory is underpinned by the view that people have a hand in shaping events and the course their lives take because human functioning is regarded as a product of the complex interplay of intrapersonal influences such as a person's beliefs, emotions, motivation and thoughts; the behaviour individuals engage in; and the impact of environmental forces (Bandura, 1986, 2012).

A key aspect in this triad of forces that constitute human functioning is the individual's perception of their ability to control and impact on their environment, which is a central tenet of Bandura's theory of self-efficacy. Originating in a person's belief in their capability to organise and take action that they think will

result in reaching a certain outcome, self-efficacy is a higher-order determinant with broad impact on a person's motivation, thought processes, emotions and behaviour (Bandura, 1997). It is a concept that is self-referential in the sense that it is largely determined by the individual's perception of their capability to take action. But in line with social cognitive theory (Bandura, 1986), this perception of one's capability is influenced by social and situational factors. In the SDA context, the social and situational factors relate to teaching and scaffolding.

While many contemporary pedagogical approaches emphasise the importance of social factors; for example, by stressing collaborative work and authentic approaches to learning by learning in 'real life', social cognitive theory stresses the importance of the individual. As Bandura put it "unless people believe they can produce desired effects by their actions, they have little incentive to act" (Bandura, 1997, pp. 2-3). Naturally, it is not a binary case of 'to act or not to act'. Rather, people's belief in their efficacy influences what courses of action they take, how they pursue their goals, how much effort they put into this pursuit, and how they persevere when faced with obstacles (Bandura, 1997; Schunk & Pajares, 2005; Usher & Pajares, 2008, 2009). Self-efficacy impacts on a person's resilience in respect of whether thought patterns self-hinder or self-aid when faced with stress in a demanding situation (Bandura, 1997; Usher & Pajares, 2009).

Applying these ideas to the context of the present study into SDA and to this chapter's examination of how assessment can be used to motivate and engage students in learning, assessment as a learning process binds together behavioural, individual and social factors that constitute the triad of social cognitive factors

(Bandura, 1986). In this case, the individual students' emotions, thoughts, interests and beliefs shaped their experience of directing their learning towards the articulated learning goals in a scaffolded process. This idea aligns with the social cognitive notion of agency, which holds that people intentionally influence their circumstances, rather than simply being products of them (Bandura, 2001, 2006).

### **Self-efficacy**

#### *Self-efficacy, agentic engagement and chosen action*

Qualitative data collected in interviews with students and teachers who participated in the SDA project provide several examples of descriptions of how students' self-efficacy and agentic engagement impacted on their choices with respect to directing the assessment process. Several teachers described how they expected students to choose to write texts that they would find 'easy', and therefore logically perceive themselves as clearly capable of producing the desired results. An example of this is Robin's description of what text types the students in this particular Year 4 class chose:

Robin: I was interested in seeing what they choose. I would have expected them to choose narratives, but they didn't do it that way. There was a good assortment, wasn't there? So that was... Yeah, it was interesting that so many of them obviously found procedures, for example, a lot easier... And poetry! Some did poetry! Hmmm, which was good to see.

Anna: ...So that surprised you?

Robin: Yeah, it was interesting, I thought. Because we had concentrated on narratives, more on narratives than anything else. So my natural thought would be: 'okay they're going to...'

Anna: You thought that [narratives] would be in their comfort zone?

Robin: Yeah! But not – I mean, obviously we've looked at other things – but some of those are the things some of them obviously find easier, or more enjoyable, which is good.

Anna: Yeah, I wonder, did they... Have any kids said why they chose... – 'cause quite a few chose procedures – I wonder why that was...

Robin: Some of them just felt comfortable, they felt that they wrote them well. And they did! They did very well in their procedures.

*Follow-up interview with Robin, Year 4 SDA teacher, October 2009*

Contrary to Robin's expectation that the students would choose narratives because that particular text type had been a focal point of the teaching in class, a significant number of students in this particular class chose to write other text types. This is an example of the sort of agentic engagement Reeve has put forward, as the students constructively enriched and personalised instruction (Reeve, 2012; Reeve & Tseng, 2011).

While a few students opted to exercise creative writing skills by writing poetry, a large number selected to write factual, instructional texts such as procedures. Procedures is a text type which requires students to write short, clear, sequential instructions, and use precise verbs, to communicate what needs to be done and how (Durkin, Ferguson, & Sperring, 2001; Eather, 2006).

To contextualise the level of cognitive engagement that writing procedures requires from students, the highly influential Bloom's taxonomy (Krathwohl, et al., 1964) is enlightening. According to this taxonomy of educational objectives within the cognitive domain, procedural texts fit with 'knowledge', at the lower spectrum of the taxonomy of understanding (Krathwohl, et al., 1964). This level reflects knowledge of *specifics*, *terminology* and of *conventions*. When procedure as a text type is applied to Krathwohl's revised structure for the original taxonomy, it reflects the most basic level of *Factual Knowledge* (Krathwohl, 2002), because students need to be acquainted with terminology, specific details and elements in order to write a procedure.

However, the slightly elevated level of *Conceptual Knowledge* (Krathwohl, 2002) may also apply. This is because conceptual knowledge is required to successfully construct a procedure according to the writing conventions in respect to text- and sentence structure; vocabulary; and ideas. These aspects of writing conventions were all part of the NAPLAN marking criteria used in the present study, as discussed in the previous two chapters.

Robin's suggestion that the students felt comfortable and confident in their ability to write procedures as a text type, clearly illustrates Bandura's argument that students' perception of their capability to complete a specific task impacts on their chosen action (Bandura, 1997), which in this case required a certain degree of conceptual knowledge and cognitive engagement. It also aligns with Weinstein's idea that a student's skill and will play a crucial role in the process of task analysis (Weinstein, 1994).

In this case, Robin's comments how "... *so many of them obviously found procedures [...] a lot easier*" and that the students "*felt comfortable, they felt that they wrote them well*" can be interpreted as students 'playing it safe' by choosing to write a text type at the lower level of the cognitive domain spectrum (Krathwohl, 2002). Yet, the action of deliberately choosing a type of text that one is confident in having the ability to write well, suggests awareness of knowledge and of one's own cognition, as well as a good degree of self-efficacy.

One of the Year 6 SDA students was asked what advice he would give to students who had not used the SDA approach before. His answer is a synthesis of the cognitive, emotional and agentic forms of engagement, which the SDA approach sought to evoke in students, as the critical directors in the assessment process:

Anna: ... What would you recommend [to students who have not directed their assessment before]?

Jeremy: Go with what you like to do. If you choose something, don't just choose what you want to do, because if you choose something really big and you can't manage the time; well you might not finish it. So probably do something that you know you are going to enjoy and finish. And do a good job of [sic].

Anna: ...and would that be advice that you would normally give to anyone when they have a writing task, or is that is specifically for this?

Jeremy: I don't know, probably more for this, when you get to choose.

*Follow-up interview with Jeremy, Year 6 SDA student, October, 2009*

Both Jeremy's advice to fellow students, and Robin's suggestion that students chose procedures because they found them "*a lot easier*" and because they "*felt that they wrote them well*", imply that the students' understanding of what a task entailed, influenced their choices. This is known as *knowledge of academic tasks* (Weinstein & Acee, 2013; Weinstein, et al., 2000), which includes the understanding of what is required to successfully complete the task at hand. As evident in the quote from Jeremy above, this element of the learner's skill set relates to their understanding of what steps need to be taken to complete the task and how much time this will take (Weinstein & Acee, 2013; Winne, 2011).

Related to Krathwohl's revision of Bloom's taxonomy, such knowledge of academic tasks and consequent action in respect to acting on choices demonstrates *Metacognitive Knowledge* (Krathwohl, 2002), which is at the highest level of the taxonomy's knowledge dimension. At this level, students use strategic knowledge and self-knowledge as well as their knowledge about the context. Viewed from Bandura's standpoint that self-efficacy impacts on a person's action and motivation, Robin's reflection above suggests that the students in this particular Year 4 class, when directing their writing as part of the SDA process, strategically chose text types that they felt confident about writing well.

Importantly, by requiring the student to individually decide what text type they would choose to write, as part of the SDA planning process, the students made individual choices which were contrary to the teacher's expectations. This is another example of Bandura's notion of triadic reciprocity among intrapersonal factors such as self-efficacy and a person's cognition; social and environmental factors; and

behaviour. As Bandura stresses, triadic reciprocity does not assume that all these forces are equal or static. Rather, they fluctuate in different situations and at different times. In respect of the SDA process, individual factors such as the students' self-efficacy arguably had greater influence on the students' behaviour, compared to a teaching situation in which the student is given less choice. Or rather, the SDA process may have facilitated the positive effects of self-efficacy.

It is noteworthy that the choices made by students reflected strong individual influences, by reflecting, as Robin put it: "*a good assortment*" of choices, well beyond the social influences represented by the teaching focus which Robin conceded had been somewhat narrow: "*... we had concentrated on narratives, more on narratives than anything else.*"

#### *Self-efficacy and students exceeding teachers' expectations*

Elle, who taught one of the Year 6 SDA groups, provided another example of how self-efficacy appeared to influence students' choices. Elle clearly acknowledged the importance of individual factors, and provided a thought-provoking fusion of learning and teaching by suggesting that 'good learning', in her opinion, "*[i]s interesting to all different styles of learning and explains what they're expected to do*". She found that the SDA approach helped to make expectations explicit and motivate the students in their pursuit of learning goals:

Anna: ... So, did you find that the [SDA planning] template helped? Or the fact that they got to choose their own thing, or...

Elle: Both. Definitely. Yeah. They [chose] what they were interested in and learnt more about that genre by doing it and having the

information up. We put a writing corner up there [pointing at a wall] and they did go and refer to those coloured papers [Eather's text type templates] regularly.

Anna: So, did they seem fairly self-directed, or did you have to [prompt them often]?

Elle: No, once they understood what was expected with the criteria - I went through that a couple of times - then they would just fly. And they were asking: Can we do our writing project? Can we do our writing project? And they were just awesome.

Anna: Do they normally do that, or did they seem more keen?

Elle: They were really keen with this because I think it was self-directed. So I'd be keen to try that again and get them to do a different style of writing, you know...

*Follow-up interview with Elle, Year 6 SDA teacher, December, 2009*

The interview segment above reflects that Elle, like Robin, thought that factors associated with the students as individuals impacted on their choices. While Robin nominated confidence and enjoyment as individual factors, Elle's comments in her follow-up interview suggest that she thought that the students' interest impacted on their choices and that making choices based on interest drove learning forward: "... *they were doing what they were interested in and learnt more about that genre by doing it and having the information up.*"

Importantly, Elle also noted that the students took the initiative to self-regulate their learning by "*refer[ring] to those coloured papers regularly*" as they monitored their

understanding and progress. This suggests that Elle noticed another aspect of self-efficacy, namely that students' confidence in their ability to organise a task impacts on effort and motivation (Bandura, 1997, 2012; Schunk & Mullen, 2012). Despite this, Elle, like Robin, found herself surprised by some of the individual students' choices. In particular, Elle remarked on how a group of boys showed a different side to themselves as learners:

Elle: I suppose now... suppose that some of the choices that the kids made - I didn't expect that. Some of the boys decided to do a play together. And then they wanted to act it out. Just uhm...

Anna: Was that in a good way or a bad way?

Elle: Yeah *good*, but just surprising that the boys would choose something challenging like that. So... but good!

Anna: Ok, so did they come up with something that reflected their learning, then? Or did they sort of do it as a fun thing and didn't really...

Elle: [interjecting] *No*, they took it pretty seriously! And each of them had their own "You're going to do this part of the story and I'll do this part, and I'll do this part..."

*Follow-up interview with Elle, Year 6 SDA teacher, December, 2009*

This particular group of boys clearly surpassed Elle's expectations by proving themselves more motivated and able to organise themselves than she had perceived. This falls in line with the argument that Bandura (1997, 2012), together with many other researchers (Klenowski, 1995b; Schunk & Pajares, 2009; Usher & Pajares, 2008) has put forward: self-efficacy can have a positive effect on learning,

achievement, self-regulation and motivational outcomes such as individuals' choices of activities, effort, persistence and interests. Elle continued her reflection about how boys in her class had seemed particularly motivated during the SDA project:

Elle: ... it, it just went for pages and pages... [showing the script prepared by the group of boys]

Anna: Oh, wow...

Elle: This was [Sudhindra's] as well... [showing another boy's work]

Anna: Wow! Do they normally produce that much work? Or did it seem to be more...

Elle: No, no they... They seem to have just *really* taken it seriously. You know what I mean. They even put pictures with it. They took a lot of pride in it.

*Follow-up interview with Elle, Year 6 SDA teacher, December, 2009*

Monica, another of the Year 6 SDA teachers, provides another illustration of how boys in particular seem to have exceeded teacher expectations during the SDA project. Monica's account is particularly interesting because her account clearly refers to the triadic reciprocity of intrapersonal factors, behaviour and social contexts, which frame human functioning, according to social cognitive theory (Bandura, 1986). Monica remarked on individual factors associated with two boys, which implies self-efficacy by drawing a connection between the individual and their determination to persist, and to demonstrate agency as an active learner in the assessment process. This, combined with social factors in the form of the

scaffolding, which Monica provided by prompting students to refer back to their checklist of goals and strategies on the SDA planning template, appears to have impacted on students demonstrating more committed learning behaviours than she had expected. In a follow-up email written to me during the project, Monica noted:

Students really surprised me and worked well on their writing activity. [Jack] said that this was the first time he had written such a long story. Students like [Charlie], who are normally weak in writing skills, did well and never complained about having to write a recount. It really helped to have the assessment criteria (outcomes) that they had written themselves to refer back to.

I regularly check that the students have referred back to their outcomes. I said at the beginning that we would work on the project for three weeks, but I have found that in two weeks the majority of the kids have only done their planning and their written copy. I am not sure at this stage if the students will be able to complete the project in three weeks as originally planned.

*Follow-up email from Monica, Year 6 SDA teacher, November, 2009*

With respect to teaching, Monica's comments above raise an important point, discussed in Chapter 2, in regard to teachers having confidence in their professional role. While her comments reflect her doubts about completing the project with her class in three weeks as she originally had planned, Monica clearly used the SDA in a formative manner, to inform her teaching. She extended the period of time dedicated to the project because her professional judgement was that students were deeply engaged in the learning process and that it therefore would benefit their learning. This is yet another example of how our (or in this case, Monica's) intrapersonal

factors such as cognition, emotion and motivation reciprocate with social and situational factors, which in turn reciprocate with behaviours.

### **Self-efficacy, pride and perseverance**

Monica's account in the segment above bears similarities to the account provided by Elle, which was discussed earlier in this chapter. Both Monica and Elle spontaneously commented on how boys in particular had exceeded expectations by taking the writing project more seriously than the teachers had expected. From Elle's comments, which express surprise at the effort and pride the boys displayed in their work, one can surmise that effort and pride in written work was not something she normally would have expected the particular boys to demonstrate.

Monica articulates this more explicitly by stating that: "*Students like [Charlie], who are normally weak in their writing skills, did well and never complained about having to write a recount.*" Given that the SDA project gave 'normally weak' students like Charlie the choice of what text type they would write to demonstrate that they could meet the learning outcomes, it seems reasonable to assume that self-efficacy impacted on these choices. Rather than adopting a unidirectional flow on instruction that Charlie would have little impact on, other than as the producer of a writing sample, the SDA process enabled Charlie to take on the role as the director of the process, as he steered it towards the learning goals as expressed by the curriculum. As such, he came to adopt what Bandura (2006) refers to as an agentic perspective of personal influence, which became part of the causal structure that saw Charlie contribute to his circumstances and accommodate his self-interests.

This required Charlie to make strategic choices based on his perceived abilities and interests as he decided what type of text he would write to develop and demonstrate his meeting the learning outcomes. As a director of the assessment process, Charlie showed himself to be more persistent and ‘did not complain’ about having to write, which we can deduce from Monica’s comments that he normally would.

#### *Pride and perseverance*

Similarly, the SDA process appears to have had a positive effect on another boy in Monica’s class, Jack, who seems to have expressed pride in the result of his effort when stating to Monica that “*this was the first time he had written such a long story.*” This remark corresponds with Elle’s comments in her follow-up interview about how boys in her class whose work “*... just went for pages and pages*”, as a result of the boys’ attitudes towards the SDA project which they “*... seem to have just really taken [...] seriously*” and “[*t*]hey took a lot of pride in it”.

These findings are in line with research into self-efficacy, and the established understanding that students’ beliefs in their ability to solve tasks correlates with their motivation to exert effort and persist with tasks that challenge their understanding— which correlates with their level of success as learners (Bandura, 1997; Cellar, et al., 2011; Dweck & Master, 2008; Eccles, et al., 1998; Kim, Park, & Cozart, 2014; Pintrich, 2003; Pintrich & Schunk, 2002; Schunk & Pajares, 2005; Zimmerman, 2011).

*Engaging boys and helping students with low confidence to develop self-efficacy*

This thesis did not set out to explore gender differences in respect of exploring its central question: ‘How does Student-Directed Assessment shape learning?’ However, these findings certainly present a new line of inquiry for future studies, with respect to the sub-question which is the focal point of this chapter: ‘How do students engage in learning when they are able to identify their own learning goals, and determine sub-goals for their progress towards their mastery of the learning outcomes?’ The teacher accounts as well as the analysis of writing results provide a strong indication that the SDA approach stimulates boys in developing self-efficacy as well as SRL behaviours.

As stated above, the aim of the SDA study was not to find strategies to improve boys’ writing, specifically. However, several of the strategies which have been found in studies concerned with improving boys’ writing (Office for Standards in Education. [Ofsted], 2003; Ontario Institute for Studies in Education. [OISE], 2009) bear a striking resemblance with several of the SDA approaches. For example, an action-research project from Ontario, in Canada, into boys’ literacy (OISE, 2009) found that boys performed well when they had opportunities to exercise choice in how to respond to their reading and writing. This is supported by earlier research, which has found flexibility (measured as a component of a Torrance Tests of Creative Thinking) to have a strong impact on boys’ academic achievement (Ai, 1999).

In line with the Ontario action-research recommendations, the SDA approach presents an opportunity for students to exercise choice when they actively direct

their learning and assessment. Furthermore, the same study found that boys particularly benefit from clear assessment strategies and from differentiated learning approaches.

The Ofsted report (2003) into approaches used by schools in which boys write well found that boys benefited when a good balance between support and independence was evident, with a clear and consistent expectation of as much student independence as possible. Again, the SDA approach uses just such an approach.

Furthermore, the Ofsted report (2003) identified that boys benefited from tackling writing tasks in stages, with feedback provided at each stage of the planning and drafting. The sequential SDA process, with its planning template, has an explicit focus on the stages of the writing process. In addition, the planning template requires students to identify strategies, which links in with the writing process, as it identifies concrete activities that the student plans to do at the different stages of writing. Furthermore, as described earlier, the planning process requires teachers to guide students by providing clear feedback to help the student gain confidence, independence and ownership of the SDA choices.

Obviously, the strategies outlined above do not only benefit boys, and certainly the boys were not alone in benefiting from the SDA approach. This prompts further questions because while one interpretation of this case study's findings points to the SDA approach particularly benefiting boys, this may have been because the project focused on writing, which is what the research cited above has explored.

One final feature of the SDA, which research into boys' writing has put forward as an important motivating factor, is real audiences. According to the Ofsted report (2003), developing texts with real audiences in mind, in respect of the publication and display of the work, makes an important difference with regard to motivating and stimulating boys to achieve success in writing (Ofsted, 2003). Such strategies appear supported by studies into external motivation factors (Conti, et al., 2001; Koestner, Zuckerman, & Koestner, 1989), which suggest that external motivation, in the sense that students know their work will be displayed to a real audience, has a positive effect on boys.

*Intrinsic and extrinsic motivation integrated: pride in meaningful accomplishment*

Reconnecting to Elle, one of the Year 6 SDA teachers who proffered in her interview that the boys in her class took the SDA process “*seriously*”, by applying effort which Elle thought demonstrated that they “*took a lot of pride in [their work]*”. Research into self-efficacy and its links to academic achievement has explored how achievement-oriented pride, or intrinsic motivation, impact on perseverance in achieving long-term goals despite short-term costs in the form of effort (Pintrich, 2004; Skinner & Pitzer, 2012). Similarly, Earl (2013) asserts the importance of assessment as learning in this regard by reasoning that it fosters students in developing “sophisticated combinations of skills, attitudes, and dispositions” (p. 53) to persist with the challenging, hard work that constitutes productive learning. This not only requires support and modelling from the teacher, as Earl points out. It requires students to invest themselves in a task, which they see as meaningful and valuable, and perceive themselves to be capable of completing,

despite the challenges it presents. It logically follows that such an accomplishment is cause for pride.

Lisa Williams and David DeSteno (2008) explored pride as a social emotion, hypothesising that students feel motivated to pursue further action in a specific domain when feeling proud of recognised accomplishments. This emphasis on pride as being generated by the appraisal of others poses some interesting questions.

On one hand it clearly suggests the importance of an audience, which can be connected with authentic task approaches (Newmann, Brandt, & Wiggins, 1998; Newmann & Wehlage, 1993; Splitter, 2009; Wiggins, 1990), and which conforms with this thesis's central idea of triadic reciprocity among individual, social and behavioural factors in line with social cognitive theory (Bandura, 1986).

On the other hand, the notion of pride as a social emotion (Williams & DeSteno, 2008) also suggests extrinsic motivation through a performance task approach, in which the focus is on outperforming others (Anderman & Patrick, 2012; Dweck, 2000; Dweck & Master, 2008; Isen & Reeve, 2005). Indeed, Williams and DeSteno (2008) clearly adopted a performance focus by measuring pride in relation to three experimental conditions, of which two included no feedback and feedback with "percentile information indicating their level of performance in comparison to others" (p. 1010). Participants in the third condition, with a pride focus, received evaluative, performance-related feedback such as: "You received a score of 124 out of 147, which is the 94th percentile. Great job on that! That's one of the highest scores we've seen so far!" (Williams & DeSteno, 2008, p. 1010).

While Williams and DeSteno (2008) found that participants in the pride condition did persevere more with the task, this does not explain the pride and perseverance the SDA teachers noted. Contrary to Williams and DeSteno's study, pride in the SDA project was not induced by external norm-focused motivation. Rather, it appeared to be generated by intrinsic motivation, which is associated with personal task interest and enjoyment (Abuhamdeh & Csikszentmihalyi, 2012; Isen & Reeve, 2005; Vansteenkiste, et al., 2010).

In respect of the SDA project and the teachers' references to students being proud of their work as a result of their task interest and enjoyment, pride seems less an evaluative social emotion generated by the appraisal of others. Instead, in the SDA context, pride is probably better understood from the perspective of self-determination theory (Deci & Ryan, 2002). As discussed in the review of literature in Chapter 3, self-determination theory is a theoretical construct comprised of five interrelated mini-theories concerned with human motivation, emotion and personality. Self-determination theory integrates both intrinsic and extrinsic motivation in the dialectic between the active, growth-oriented human and the social contexts that either support or thwart a person's attempts to master and integrate their experiences into a coherent sense of self (Deci & Ryan, 2002; Reeve, et al., 2004).

From this perspective, pride may be generated when a person acts from their own interest and integrated values, thus experiencing their behaviour as an expression of their autonomous self (deCharms, 1968; Ryan & Connell, 1989; cited in Deci & Ryan, 2002). This, in turn, relates back to the discussion earlier in the chapter about

behavioural and cognitive engagement, as autonomously motivated students have been found to engage in deep learning (Reeve, 2012; Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005). Autonomous motivation has also been found to promote behavioural as well as emotional engagement (Reeve, 2012; Skinner, Kindermann, & Furrer, 2009).

*Clarity of task facilitates pride*

Research into the connection between emotions such as pride and students' self-concepts in academic domains has found that pleasant emotions such as enjoyment and pride show positive relations with academic self-concepts (Goetz, Hall, Frenzel, & Pekrun, 2006; Pekrun, Elliot, & Maier, 2006), as well as academic achievement (Kim, et al., 2014).

Importantly, the relationship between academic self-concept and positive, outcome-related emotions such as pride has been found to be particularly strongly associated with quantitative subjects such as mathematics and physics rather than verbal-based subjects such as English and other languages (Goetz, Cronjaeger, Frenzel, Lüdtke, & Hall, 2010; Goetz, Frenzel, Pekrun, Hall, & Lüdtke, 2007). This is surprising, because findings from the present study, which clearly involved students in a verbal-based subject, strongly point to students having experienced pride as an emotion in relation to the outcome of their efforts in the project.

Thomas Goetz and his colleagues (2010; 2007) suggest that the relations between self-concept and emotion vary between subject domains because topics in the quantitative domains primarily involve non-verbal, numeric content that is more

consistent in topic and format. By contrast, Goetz et al. (2010) describe the language domain as more heterogeneous and varied, as it consists of a number of different text types and it therefore presents a broader range from which students derive their competence perceptions and associated emotions.

If this is so, the SDA approach, which presents a highly heterogeneous range of options, would appear to contradict the logic of Goetz's argument. Yet, this logic may still apply: perhaps the crucial difference is students' clarity of focus and clarity in what success entails? Certainly, the SDA project provided students with a broad range of choices, which in turn related to numerous competence perceptions. However, two important factors present a compelling argument as to why students in the SDA project felt proud of their accomplishments and surprised their teacher by exceeding expectations.

First, there was an articulated focus on clearly delineated learning outcomes. As such, the learning process was firmly underpinned by goal-setting, which is associated with achievement. This idea is supported by earlier research, which suggests that students who self-set goals experience high expectations for goal attainment (Schunk, 1985). This is reinforced as students observe their progress and attainment of the goals (Schunk, 1985, 1995).

Second, students' competence perception was positively affected by the agentic engagement they exercised as they decided how to target their learning, to demonstrate that they could achieve the specific goals. Having this freedom increased the students' sense of self-efficacy, which in turn stimulated them to apply

themselves in the learning process and helped them persist with the challenges of learning. This, in turn, resulted in students feeling proud of their work and the outcome of their efforts.

Schunk (1985) has reasoned that a strong sense of self-efficacy in turn leads to skilful test performance. Furthermore, as the present study indicates, the clarity of goals and an increased sense of efficacy also appear to result in an increased sense of pride in the effort and achievement.

### **OWNERSHIP OF LEARNING**

Maria, one of the Year 2 SDA teachers, provided poignant comments that reflected the links she noted among her young students' motivation, pride and sense of ownership of their learning. In Maria's follow-up interview, like Elle and Monica, she expressed how the lower achievers in her class had shown a new side of themselves as learners:

Anna: Would you say that there was a particular group of kids who achieved more than you expected them to, or some less?

Maria: Uhm... I'd actually have to say... Those that are often hard to motivate got really into this. Uhm... and it might have been that sense of... eh, a bit of ownership, freedom with what they were doing.

Anna: Yeah?

Maria: In their eyes... that... uhm... gave them that drive to.. uhm... to do the best that they could. Like one of my students... he wanted [to] take his book home to show his mum his story. So, you know, that interest was there. Some that I would have liked to challenge themselves a bit more, didn't.

*Follow-up interview with Maria, Year 2 SDA teacher, October, 2009*

Maria's description of how several of her Year 2 students demonstrated that they felt motivated and that they sensed "*a bit of ownership, freedom with what they were doing*", as Maria put it, is strikingly similar to what Elle noted. It is noteworthy how both teachers spontaneously suggested that the students' targeted audience impacted on their sense of motivation and the value they attributed to their work:

Elle: I felt that they understood what they were writing it for.

Anna: So the audience aspect?

Elle: The audience aspect, yes. And it's... They didn't just show me that they understood the structural: *how to do it*. [Inaudible] It wasn't so mechanical. It was more... they just gripped on to it. It was like: *Right, there is a meaning for this; I know whom I'm writing it to, and for, and why I'm writing it. So I'm going to do the best I can do.*

*Follow-up interview with Elle, Year 6 SDA teacher, December, 2009*

The central question of this thesis explores how SDA shapes learning—and possibly Elle's comments capture the essence of using assessment as a learning process.

When the notion of assessment *as learning* was introduced as a reinforcement and extension of the role of formative assessment, Earl (2003) sought to emphasise the role of the student. Earl envisaged students as critical connectors between the assessment and learning process who would take on the roles "as active, engaged, and critical assessors [who] can make sense of information, relate it to prior knowledge, and master the skills involved" (Earl, 2003, p. 25). What Elle described

in the segment above is students taking on precisely this critical role, which Earl describes as *connectors* between assessment and learning. This thesis proposes that students are *directors* of the learning process, which means that they make active choices and exercise agency in steering their learning towards the targeted learning goals from the syllabus.

The choices students make are influenced by their perception of their own competence as learners; and their pursuit of goals is motivated by their interest in the topic they have chosen to write about. As Elle described it: “[T]hey just gripped on to it. It was like: Right, there is a meaning for this; I know whom I’m writing it to, and for, and why I’m writing it. So I’m going to do the best I can do.” From this we can deduce that SDA helps students make conscious, committed choices in a process that is meaningful to them. Frances, one of the Year 6 students, provided insightful comments when she reflected on her role as a learner in the SDA process:

Anna: Do you think it’s easier, or more difficult when you when you choose the task?

Frances: I think, personally, it’s better.

Anna: When you choose the task?

Frances: Yes. Because we get a say. It is our decision instead of the teacher’s.

Anna: Did you feel like you knew where you were going with it? So you knew what you were trying to show off? Like with the marking criteria which quite often tells you exactly what the teacher is looking for; did setting your own marking criteria help you?

Frances: It did. But I don't actually think that I followed it as much as I could have.

*Follow-up interview with Frances, Year 6 SDA student, October, 2009*

In line with the social cognitive theory of human functioning being the result of reciprocal interaction among individual, social and behavioural factors (Bandura, 1986), this thesis now turns to examining a social dimension and its connection to self-efficacy.

### **Supporting learning: help-seeking and feedback**

The importance of feedback as a formative assessment practice is well established (Black & Wiliam, 1998b; Davies & Hill, 2009; Hattie, 2012; Hattie & Timperley, 2007; Havnes, et al., 2012; Kluger & DeNisi, 1996; Leahy, et al., 2005; Wiggins, 2012; Wiliam, 2011, 2012). Consequently, the teachers were asked to reflect on the sort of feedback the students had sought during the project.

Two distinct purposes of feedback could be distinguished from the teachers' accounts, but both were of a formative nature in respect of informing future learning. These stances aligned with the distinction made by the UK's Assessment Reform Group (Black, et al., 2003) between assessment *for* learning and *formative assessment*. As described in Chapter 3, feedback given during the learning process to promote further learning serves an 'assessment for learning' purpose (Black, et al., 2003; Swaffield, 2011). The other purpose of *formative* feedback refers to using evidence to adapt teaching work to meet learning needs (Black, et al., 2003). Both these purposes were evident in the teachers' accounts. In addition, the students

clearly played an active role in line with Earl's argument about students being critical connectors, in what in this respect was the feedback process (e.g. Earl, 2013; Earl & Katz, 2006, 2008).

Because the students in the SDA project played such an active role in the learning and assessment process, it is logical that the teachers' description of feedback essentially all described help-seeking initiated by the students. As described previously in the literature review in Chapter 3, help-seeking is an important strategy for learning (R. Butler, 2006; Karabenick, 2011; Karabenick & Berger, 2013; Karabenick & Newman, 2006; Newman, 1990; Ryan & Shin, 2011) and requires agency from the student as they strive towards mastery of goals. Importantly, this process involves the student in gaining clarity, with respect to why they are seeking help, and reflect on whom to seek help from (Hattie, 2009; Karabenick, 2011).

Maria, one of the Year 2 SDA teachers, described how the students' help-seeking "[...] showed me, you know, what we need to cover a bit more, as a teacher". In addition, she noted how students sought help because they sought to address a particular area of their learning:

Anna: ... Did the kids seem aware of what they needed to work on?

Maria: Yeah, Yeah. Uhm... And I think that's why they often came up to me to check, because they know that's something... it's an area that they need to work on.

*Follow-up interview with Maria, Year 2 SDA teacher, October, 2009*

Maria described how this in turn prompted her to change her practice by initiating conferences with the students. She found that conducting conferences helped her provide feedback to the individual student, tailored around where they were at in the learning process. This also helped address the issue of students needing help but not seeking it (R. Butler, 2006; Karabenick, 2011). Emma, another of the Year 2 SDA teachers, also noted an increase in help-seeking behaviour among her students. As she described it in a follow-up email:

During the project the students were approaching me more for help and feedback, as it was a new concept of writing. The responsibility was placed on them, so they were asking for confirmation that what they were doing was correct.

*Follow-up interview with Emma, Year 2 SDA teacher, October, 2009*

Similarly, Elle described how help-seeking featured strongly among the students in her class during the project. Her description illustrates the importance of help-seeking as students engage in task analysis, strategic planning and SRL (Karabenick & Berger, 2013):

Anna: Overall... Did they come to you more for feedback, or less, or same as usual, or...?

Elle: Some did, some didn't. Some - you know those ones that were always looking for the recognition and: *Is it okay, am I on the right track?* But uhm... I... Yeah, more so than just the usual: *Ok, we're going to do a narrative today, and we're going to get it finished today and*

*tomorrow... They.... Wanted to just check that they were, you know, doing the right thing.*

Anna: So they obviously... [Stopping myself]. What do you see that as a sign of?

Elle: Just... again... taking it on board. And wanting to do their best with it.

Anna: Being responsible?

Elle: Yeah!

Anna: Wow! [Laughing]

Elle: But once they knew that they were on the right track, then they were very independent.

Anna: Ok, that's good.

Elle: I barely had to help them in the last couple of weeks, they were just [flat out?] They just looked at their sheet, talked about it with each other a little bit. Loved it.

*Follow-up interview with Elle, Year 6 SDA teacher, December, 2009*

Elle's description of the help-seeking behaviour her students displayed mirrors understandings from research into help-seeking. For example, Stuart Karabenick, one of the dominant researchers in the field, defines help-seeking as a "process of seeking assistance from other individuals or other sources that facilitate accomplishing desired goals" (Karabenick & Berger, 2013, p. 238). This definition clearly reflects the close connection between help-seeking and SRL, in which the

learner takes on an active, central role in seeking information and assistance when needed (Zimmerman, 2000; Zimmerman & Martinez-Pons, 1990; Zimmerman & Schunk, 2011). While some researchers have argued that help-seeking is an act of dependency (e.g. Ames, 1992; Nelson-Le Gall, 1981,1987; cited in Karabenick & Berger, 2013), there is strong agreement among researchers that help-seeking is a form of self-regulating learning behaviour (Pintrich & Zusho, 2002) in a social context (Karabenick & Berger, 2013; Newman, 1990, 2000; Zimmerman, 2008b). In line with this view, help-seeking is the manifestation of the cognitive, behavioural, emotional and agentic engagement of learners (R. Butler, 2006; Karabenick, 2004; Karabenick & Newman, 2006; R. Newman, 2000), which is at the core of this chapter's discussion.

#### **KEY FINDINGS OF USING ASSESSMENT TO ENGAGE AND MOTIVATE LEARNERS**

This chapter set out to address the second research question: 'How do students engage in learning when they are able to identify their own learning goals, and determine sub-goals for their progress towards their mastery of the learning outcomes?'

To answer this question, the findings have been related to existing research understandings from the fields of engagement and SRL. The findings have been discussed from a framework of social cognitive theory, to present five key arguments, which are summarised here.

First, self-efficacy is a key intrapersonal influence (Bandura, 1997, 2012). The students' perception of control in the assessment process was facilitated because the

SDA process required them to make individual choices with respect to how to demonstrate their learning. In line with the idea of triadic reciprocity, the teacher provided individual help and support as each student began to plan their assessment as learning journey. This social support helped clarify choices and build the students' understanding, confidence and motivation to complete the task. Behavioural engagement with students persisting with their learning followed as a logical consequence.

Second, intrapersonal factors such as students' motivation and interest impacted on their choices in respect of directing their assessment. By deciding what type of text they would write, to demonstrate that they could meet the learning outcomes, as well as identifying an audience for their writing, both intrinsic and extrinsic motivation were triggered in the students. Both freedom in exercising task choices and extrinsic motivation in the form of a genuine, identifiable audience has been found to particularly stimulate boys to engage with writing (Ofsted, 2003), a finding that also featured strongly in this study.

Third, with students' interests driving their task choices, students' agentic engagement (Reeve & Tseng, 2011) was integrated with the assessment process, as students made a constructive contribution to the learning process. This was exemplified by teachers in all year levels in the study who taught SDA groups, and who described how students in the project exceeded their expectations by demonstrating SRL behaviours such as persistence, organisation, monitoring of learning and achieving above expectation. In particular, the teachers noted that boys and students with lower ability appeared more motivated than usual. This thesis

posits that this increased level of motivation and agentic engagement was due to the central and empowering role of the student in the learning process, which helped students develop self-efficacy.

Fourth, by requiring students to make individual choices, the SDA approach prompted students to cognitively engage in the learning process. This entailed students making strategic choices, with the support of the teachers, as the students filled in their planning template. This required the student to interpret and clarify the aim and learning criteria. As such, the SDA process connected with the forethought step in the SRL cycle (Zimmerman, 2000). SRL behaviours such as help-seeking also featured strongly, which in turn promoted feedback—an essential component of formative assessment (Hattie & Timperley, 2007; Wiliam, 2012).

Fifth, students' emotional engagement in the learning process was enhanced due to the fact that personal interest drove students' choices, which in turn made the learning experience meaningful to them (Hidi & Renninger, 2006; Renninger & Hidi, 2011; Schiefele, 1991; Weinstein, 1994). This resulted in students developing and demonstrating a sense of ownership in their learning as well as taking pride in their work and efforts.

In summary, these positive effects on learning were underpinned and driven by the students' agentic engagement, which went beyond a constructive contribution to instruction. Agentic engagement is therefore at the core of the SDA approach and is key to building students' self-efficacy.

### *Insights as a practitioner–researcher*

Before turning to the final chapter in this thesis, it seems timely to explain how the findings discussed in the last chapter have informed my own understanding as a practitioner. As explained in Chapter 4, this study originated from my desire as a class teacher to investigate whether my own perception that students ‘learn better’ when actively involved in articulating criteria and making choices in their learning was well-founded.

Since this starting point, I have gained a much more informed opinion in a research journey, which largely reflects the very topic of my research: the student-directed learning process. I have developed my own intrapersonal assets (to use a term from Readman & Allen, 2013) in the form of knowledge, cognition, motivation and self-efficacy to develop my own practice—and hopefully also the practice of other teachers. I hope that my own engagement with developing a nuanced understanding of how SDA shapes learning may mirror the constructive contribution to instruction that students make as part of agentic engagement. Only in this case, I seek to contribute not only to instruction in one setting, but also to the wider field of teachers, teacher educators and researchers in the fields of formative assessment, self-regulation and motivation.

## **Chapter 8: So how does Student-Directed Assessment affect learning? : Bringing key understandings together**

This chapter is organised into three sections. The first section draws from the mixed-methods findings to provide four key insights into how Student-Directed Assessment (SDA) shapes primary students' learning. These findings originated from the present study, which involved sixteen teachers and 256 students from years 2, 4 and 6, at an independent school in the Northern Territory, in Australia. The second section revisits the social cognitive framing of the study. The third section presents implications of the research for teaching and learning, and provides a set of three main recommendations.

### **KEY INSIGHTS**

This thesis is positioned in an area of overlap between formative assessment pedagogy; Self-Regulated Learning (SRL); agentic engagement; and creativity. With respect to its overarching question: 'How does Student-Directed Assessment shape learning?' and its sub-questions, the following four key insights are put forward:

1. When given support and the opportunity, students direct their learning by making novel, yet appropriate task choices, as they address the targeted learning outcomes.
2. With support and scaffolding, students actively seek to be creative and take sensible risks in their learning.

3. As directors of the learning process, students' confidence in their ability to complete tasks serves as a springboard from which students further their will and skills to learn.
4. With support and scaffolding, students who direct their assessment demonstrate a higher degree of achievement compared to students who are given less choice.

These key findings are each discussed below, to clarify the contribution these insights make to existing knowledge.

**Key finding 1: When given support and the opportunity, students direct their learning by making novel, yet appropriate task choices as they address the targeted learning outcomes**

This key finding relates to the following research sub-questions:

2. How do students engage in learning, when required to engage in task analysis and strategic planning by identifying sub-goals for their progress towards mastering a specific learning outcome? (Qualitative strand)
3. How do students choose to demonstrate their learning, when given the choice? (Quantitative strand)

In line with the notion of agentic engagement (Reeve, 2012, 2013; Reeve & Tseng, 2011), the present study found that students constructively contributed both to the learning process and to instruction. Students' agentic engagement was initiated during the forethought phase of the SDA process, which involved students in clarifying the overall learning goals, directly derived from the syllabus. The teachers

provided support and scaffolding during this initial step of the learning process, by helping the students analyse the task requirements and clarify their understanding of what the learning goals would entail.

Through class discussion and individual support while students filled out the SDA planning template, the students were prompted to identify possible ways of demonstrating that they could meet the learning goals. This step of the learning process engaged students in forethought and activated their cognitive intentionality (Bandura, 2001), as they considered the possibilities the task presented. In their role as directors of the assessment, the students were in a position to make meaningful choices, which drew on their existing interests and knowledge (Renninger & Hidi, 2011). As these decisions were influenced by each student's intrapersonal factors, the students' choices of text type, content and audience were often innovative.

Because students tended to choose audiences of a similar age group as themselves, their creative metacognition (Kaufman & Beghetto, 2013) was prompted through reflection about what they themselves would find engaging to read. This, in turn, led students to demonstrate their ability to meet the learning goals in ways which were creative, in the sense that they were novel, appropriate and of a high standard (Kaufman & Sternberg, 2010; Plucker, et al., 2004). The students also demonstrated autonomy in their learning by acting from their personal interests and integrated values, which resulted in students not only being creative, but also using their work as an expression of their selves (Deci & Ryan, 2002; Ryan & Deci, 2002; Urdan & Turner, 2005).

Because the students' interests influenced their choices with respect to directing their assessment, the students perceived the task as meaningful (Schunk & Pajares, 2005), and they were therefore intrinsically motivated to engage in their learning. Intrinsic motivation is strongly associated with creativity (Amabile, 1985; Hennessey, 2010; Hennessey & Amabile, 2010; Sternberg & Lubart, 1992), which contributed to the innovative, imaginative ways that the students' work demonstrated. Extrinsic motivational factors such as choosing their intended audience also served to spur on the students' creativity and motivation. In particular, previous research suggests that boys respond by increasing their creativity and effort when extrinsically motivated by an authentic audience (Conti, et al., 2001; Koestner, et al., 1989; Office for Standards in Education, 2003), which the present study also noted.

This study posits that the innovation and creativity, which the students demonstrated in their work, was due to the students' interest and interpretation of the possibilities the task presented. The appropriateness of the students' task responses was due to the explicit scaffolding of the task goal, which clarified the success criteria and enabled intrapersonal input from the students. The importance of clear success criteria is well established in formative assessment literature, and has been found to contribute significantly to academic achievement and enable meaningful reflection and feedback (Harris & Brown, 2013; Hattie & Timperley, 2007; Marshall & Drummond, 2006; Wiliam, 2011). However, scaffolding for reciprocal learning actions to connect with external learning goals, and students' intrapersonal factors, is an area of research that largely has remained unexplored (Deakin Crick & Goldspink, 2014). This thesis aims to address that gap.

The SDA planning process explicitly scaffolded students' agentic engagement as part of the forethought phase of the learning process. By identifying sub-goals and strategies, the students clarified their intentions and identified the skills required to successfully accomplish the task (Weinstein, et al., 2011; Weinstein & Hume, 1998c). In addition, this clarity of the more immediate partial goals is likely to have strengthened the students' self-efficacy because it enabled them to gauge their growing expertise and progress (Bandura & Schunk, 1981; Locke & Latham, 2002).

*Contribution to existing knowledge*

This thesis provides empirical data of the impact assessment as learning has on primary students. While Earl brought attention to the term some ten years ago, there remains a lack of studies into the impact of assessment as learning, as a subset of Assessment for Learning (AfL).

Research has called for assessment as learning to forge more explicit links to the external standards which frame its context (Wyatt-Smith, 2006, cited in Dargusch, 2012). This thesis addresses this criticism by using external goals, in the form of learning outcomes from the syllabus, to explicitly scaffold and prompt students' reflection, strategic planning and identification of proximal sub-goals for the learning process. In addition, this study used external standards in the form of the detailed NAPLAN marking rubric, to assess students' performance as part of its quantitative analysis.

By linking SRL to assessment as learning, this study contributes to understandings about how SRL can be used as a pedagogical approach. SRL has predominantly

been explored in high school (e. g.: Cleary & Zimmerman, 2004; Harrison & Prain, 2009; Pintrich & De Groot, 1990; Ziegler, Dresel, & Stoeger, 2008; Zimmerman & Kitsantas, 2014) and college settings (e. g. Acee & Weinstein, 2010; Leutner, et al., 2007; Nückles, Hübner, & Renkl, 2009; O'Keefe & Linnenbrink-Garcia, 2014), using survey methods. Of the few studies that have explored SRL in primary settings (Bird, 2009; Perry, et al., 2002; Souvignier & Mokhlesgerami, 2006; Spörer, Brunstein, & Kieschke, 2009; Timperley & Parr, 2009), these have focused on teachers' practice and have not used student insights to the same degree as the present study.

One exception is Perry (1998), who examined the relationship between primary students and writing and portfolio activities from a perspective of social cognitive theory. While Perry's study was acknowledged as contributing unique SRL understandings from a setting previously not explored, the study mainly used qualitative data, and the did not include standardised measurements of students' writing achievement, a limitation noted by Zimmerman (2008b). This thesis thus expands on Perry's exploration of SRL in primary settings, and complements it through the inclusion of measurement data, through its use of mixed methods. Additionally, the present study gives insights from an Australian primary setting context.

**Key finding 2: With support and scaffolding, students actively seek to be creative and take sensible risks in their learning**

This finding relates to the following questions:

3a: What types of text do students choose to write when given freedom to choose? (Quantitative strand)

3b: What subjective reasons underlie students' choices? (Qualitative strand)

The second key finding indicates that students demonstrated a strong sense of autonomy as learners, by using their personal interests and talents, and employing the learning process as an opportunity to 'broaden their horizons'. This finding aligns with self-determination theory, which holds that people have an innate growth tendency to stretch their capacity and express their talents as part of realising their human potential (Deci & Ryan, 2002; Reeve, 2012; Reeve, et al., 2004; Ryan & Deci, 2002; Vansteenkiste, et al., 2010).

The students' willingness to expand their writing repertoire and take sensible risks in their learning was manifested by students making unexpected choices in respect of the text type they selected to write. In particular, students' decision to write poetry—to the surprise and delight of their teachers—emerged as a recurring theme across the three class levels.

This finding indicates students' creativity at both product and process levels. The former was evident because, as discussed in Chapter 5, students predominantly chose to write creative genres of text, such as narratives and poetry. With respect to students adopting a creative approach to the process of learning, this was indicated by how the students broadened their writing repertoire, by adopting novel but appropriate choices (Kaufman & Beghetto, 2009), in regard to subject matters and showcasing work.

Research into behaviours and aptitudes associated with creative individuals has found that willingness to take sensible risks and exercise cognitive flexibility is a significant trait in creative individuals (Simonton, 2000; Sternberg, 2006; Sternberg & Lubart, 1992). Students in the present study demonstrated a similar willingness to explore new avenues of learning and demonstration of knowledge, as they took sensible risks in their learning and expanded their understandings and skills as learners.

Also, the SDA approach enhanced students' agency, by requiring the students to make individual choices. As pointed out in Chapter 7, the students' choices frequently were contrary to the teachers' expectations. In line with the concept of triadic reciprocity among intrapersonal factors, situational factors, and learning actions taken by students, the SDA process appeared to enhance the importance of individual factors such as the students' self-efficacy and creative metacognition (Kaufman & Beghetto, 2013), compared to a teaching situation in which the student is given less choice.

Furthermore, the study's interview findings suggest that the SDA process may have facilitated the positive effects of self-efficacy. In turn, the influence of students' growing self-efficacy appears to have resulted in a willingness to take risks in learning. This confidence to engage in challenging tasks and broaden their writing repertoire suggests that students experienced a strong sense of intrinsic motivation, which research has established as being closely connected with high levels of self-efficacy (Bandura, 2012; Bjørnebekk, et al., 2013; Schunk & Pajares, 2009).

*Contribution to existing knowledge*

With respect to existing understandings, this second key finding is significant because it contributes to insights of how teachers can scaffold learning. By examining the importance of scaffolding through a perspective of triadic reciprocity (Bandura, 1986), this thesis provides an alternative approach to scaffolding goal-setting in a non-unidirectional, teacher-centred sense (Reeve, 2013). This study's findings demonstrate that even young students in Year 2 are able to set goals and develop the confidence to expand their writing repertoire as learners, when supported by their teachers. This finding is in contradistinction to reservations from previous research about young students' ability to set their own goals as part of SRL practice (Hawe & Parr, 2013).

Furthermore, research into creativity in classroom contexts has repeatedly found that teachers are reluctant to encourage students' creativity because they perceive it as disruptive (Aljughaiman & Mowrer-Reynolds, 2005; Beghetto, 2005, 2007, 2010; Chan & Chan, 1999; Scott, 1999). The present study provides a useful way forward, by scaffolding students' behavioural engagement to avoid disruptive behaviours. More importantly, the study provides convincing findings of the SDA students' engagement at the highest cognitive level: creativity (Krathwohl, 2002). Thus, the study addresses the gap in scaffolding creative challenges for students as part of classroom practice (Beghetto, 2010), by structuring assessment as learning into a meaningful and creatively challenging learning process for students.

**Key finding 3: As directors of the learning process, students' confidence in their ability to complete tasks serves as a springboard from which they further their will and skills to learn**

This relates to the following questions:

4. How do SDA students use learning strategies and develop competence as learners? (Quantitative strand)

4a: What do students and teachers perceive as benefits and challenges with SDA? (Qualitative strand)

Previous research has established that self-efficacy is a highly significant factor in academic achievement (Bandura, 1997; Cellar, et al., 2011; Eccles, et al., 1998; Lee, Lee, & Bong, 2014; Pintrich, 2003; Pintrich & Schunk, 2002; Schunk & Pajares, 2005; Stankov, Morony, & Lee, 2013; Zimmerman, 2011). While other studies have explored self-efficacy as a predictor of success (Alivernini & Lucidi, 2011; Mattern & Shaw, 2010; Niehaus, Rudasill, & Adelson, 2012), the present study did not take this approach. This study did not follow the path of other studies by examining how students' achievement in the assessment correlate with the students' level of self-efficacy before an intervention, and concluding that self-efficacy 'builds' results.

Instead, the findings from the present study indicate that assessment as learning can be used to *build* students' self-efficacy. This is a finding of great significance to teaching and possibly the greatest advantage of the SDA approach.

The present study found that students whom teachers identified as 'normally hard to motivate' responded to the SDA approach with increased interest and motivation to

persist with their learning. The study posits that this increase in persistence and motivation was the result of the students feeling more confident in their ability to complete the tasks at hand. This increase in confidence is attributed to the individual student's active role in making learning decisions. As directors of their learning process, students were able to develop a stronger perception of control by choosing how to demonstrate their learning, which was highly meaningful and empowering to these students. Despite previous research findings, which have indicated that control perceptions have a significant, positive impact on the academic achievement of low-ability students (Schunk, 1985, 1995), few studies since have explored scaffolded goal-setting as a proactive approach to building students' self-efficacy and competence as learners.

The present study posits that the students' self-efficacy increased, due to the explicit scaffolding and clarification of learning goals and success criteria. In line with formative assessment research, which suggests that explicit goal-setting and articulation of success criteria particularly benefit learners of a low ability (William, 2011), the SDA approach scaffolds the individual student to explicitly identify both overarching, and immediate, proximal sub-goals and strategies.

Thus, the SDA approach involved students in task analysis and strategic planning which stimulated students' cognitive engagement in the learning process. In particular, students whom the teachers identified as being among the 'less able' in the class were helped by this explicit strategic planning step because it developed these students' confidence in their ability to complete the task successfully. By being involved and making active choices, the students' developed clarity and

comprehension of the task requirements. Consequently, these students persisted more with the challenges of learning, which was a welcome surprise to several teachers.

Because self-efficacy is a significant factor impacting on self-regulation, an additional benefit of the SDA approach was that students demonstrated a range of SRL skills. While teachers indicated that students in general responded well to the approach, as discussed in Chapter 7, several teachers commented on how especially the less able and frequently unmotivated students exceeded the teachers' expectations, and demonstrated behavioural, cognitive and emotional engagement with their work.

As discussed throughout this thesis, self-efficacy and engagement are strongly associated with SRL. In addition to the planning and identification of learning strategies (Randi & Corno, 2000), and goal-setting (Hastie, 2013; Locke & Latham, 2002; Schunk, 1990; Zimmerman, 2008a) which were scaffolded as part of the SDA planning process, students in the SDA groups demonstrated a range of behavioural and cognitive indicators of SRL. These included: seeking help (Butler, 2006; Karabenick & Berger, 2013; Karabenick & Newman, 2006); sourcing information from templates (Randi & Corno, 2000); organising their work (Randi & Corno, 2000); and exerting effort and persisting with work (Harrison & Prain, 2009).

The study also found that the SDA student regulated their emotions. For example, teachers commented in their interviews how students of low ability and with little motivation had caught their attention during the project, by not complaining about

the work and persisting with tasks. While this may be seen as absence of expressing negativity, the study also found indications of positive emotions, such as pride of work and pride in effort. For example, several teachers commented about the students' keenness to show off their work. This finding reiterates the importance of students identifying a meaningful audience for their work.

Moreover, the students' pride in their work was another indicator of the autonomous learning nature of the SDA approach. This resulted in students making choices in their learning, which had originated in their personal values, interests and innate need to grow as individuals.

#### *Contribution to existing knowledge*

In relation to previous studies and understandings, the third key finding addresses the recent call for the need for research to examine how assessment can be used to scaffold young students, and less academically able students, to engage in more complex reflection and evaluation of their own work (Harris & Brown, 2013).

The realisation that students' skill, will and confidence to complete challenging tasks are enhanced when students are empowered to make conscious choices in their learning, responds to the challenges of finding a balance between scaffolding AfL and enabling students' development of autonomy (Swaffield, 2011; Willis, 2010, 2011).

This finding also connects with the emerging conceptualisation of agentic engagement (Reeve, 2012, 2013; Reeve & Lee, 2014; Reeve & Tseng, 2011). However, while this research into agentic engagement has investigated it as a

transactional relationship between students and teachers during instruction, the SDA approach adopts a similar transactional approach, but shifts its emphasis. Rather than placing the focus on students' agentic engagement during instruction, the SDA seeks to scaffold it as part of the forethought stage of the learning process. As such, agentic engagement is facilitated as part of learning activities concerned with task analysis and strategic planning, which occurs before the performance phase of the SRL cycle (Zimmerman, 2000, 2008a, 2011).

**Key finding 4: With support and scaffolding, students who direct their assessment demonstrate a higher degree of achievement compared to students who are given less choice**

This finding relates to the following question:

4b: Do results in the writing project vary between SDA and Teacher-Directed Assessment (TDA) students? (Quantitative strand, examined using null and alternative hypotheses for NAPLAN criteria)

The quantitative analysis of data in the present study confirmed the alternative hypothesis: that SDA students demonstrate greater competence as learners by producing work of a higher standard, in relation to the descriptors and indicators articulated by the NAPLAN marking criteria. The quantitative analysis also point to greater growth of understanding and competence from the pre-test to the post-test in the SDA groups. This finding supports previous research that asserts that SRL has a significant impact on academic achievement (Dignath, Buettner, & Langfeldt, 2008; Schunk & Pajares, 2005; Ziegler, Stoeger, & Grassinger, 2011; Zimmerman & Bandura, 1994; Zimmerman & Kitsantas, 2014). The increase in academic

achievement in the SDA group is therefore understood to be due to a combination of students' behavioural, cognitive and metacognitive emotional and agentic engagement, which was scaffolded by teacher support and the SDA learning process.

The SDA planning templates were informative in this regard because they lent insight to the students' considerations during the forethought and performance stages of the writing process, which further contextualised the skills demonstrated in the writing samples. As Earl (2013) has put it: "Assessment is the window to students' preconceptions, a way of finding out, not just what they know, but what they believe is true" (p. 60). Such windows to students' understanding enable teachers to accurately address the students' learning needs. In the SDA context, the support teachers provide the students as part of the planning phase enables teachers and students to open up the metaphoric windows to new understandings, which are meaningful to the individual student.

In relation to providing analytical support for this finding, the students' planning templates complemented the writing samples with an indication of students' awareness of criteria and task demands. This was a valuable contribution to the depth of understandings generated by the study's mixed-methods approach.

Additionally, the present study's quantitative evidence indicated that the groups of students who were supported and scaffolded to direct their assessment achieved statistically significantly higher results than peers in the control group. The double-blind marked writing samples provided the basis for this finding, using the detailed marking rubric with descriptors across multiple performance levels within ten

criteria of writing (MCEETYA, 2008b). The NAPLAN marking rubric takes both creative and technical aspects to writing into consideration, as discussed in chapters 5 and 6 of this thesis.

Comparisons of means, standard deviations and effect size, combined with a repeated measures ANOVA test were used to compare the SDA students' scores with the control groups, whose scores were generated through TDA. The differences in achievement between the SDA and TDA groups were most strongly indicated in Year 6, where the SDA students outperformed the TDA group in the following criteria: *Audience, Text Structure, Ideas, Character and/or Setting, Vocabulary, Cohesion, Paragraph, Sentence Structure, and Spelling*. In Year 4, the SDA group showed greater development than the TDA group in the *Ideas* and *Paragraphs* criteria. Chapters 5 and 6 contain a detailed discussion of what each of these criteria indicated. The statistical difference in performance between the TDA and SDA students was much less pronounced in the Year 4 cohort. This difference is attributed to the importance of teacher scaffolding, and is further discussed later in this chapter.

#### *Contribution to existing knowledge*

This fourth key finding makes a unique contribution to the field of AfL by explicitly using the criteria of a nationwide external assessment as a basis for a cross-sectional practitioner research study, aimed at constructively contributing to classroom practice. To this end, the present study presents a new avenue of intelligent accountability with respect to focusing on the proper aims of professional practice (O'Neill, 2013), in relation to students' achievement of specific learning outcomes.

Both the qualitative and the quantitative findings strongly point to the importance of a dynamic, reciprocal relationship between the individual student and support from the teacher in respect of scaffolding students' cognitive engagement regarding task analysis and strategic planning. In turn, such a reciprocal relationship between the student and teacher facilitates point-of-need teaching within the students' zone of proximal development (Vygotsky, 1978). Additionally, the study found strong evidence that the SDA approach stimulates proactive feedback—or *feed-forward* (Carless, 2007a; Hattie & Timperley, 2007), by prompting students to initiate feedback through help-seeking (R. Butler, 2006; Karabenick & Berger, 2013; Karabenick & Dembo, 2011).

By using mixed methods, the study provides a nuanced account of how students' achievement varies, with respect to ten criterion-references aspects of writing. On this basis, the study provides a strong indication that the SDA approach scaffolds students' development of agency through a personally meaningful learning process, which in turn serves to develop students' confidence and competence as learners. Additionally, the findings suggest that the SDA approach has a particularly positive influence on boys' writing. This is encouraging, given that this has been found to be an area of need (Ofsted, 2003; OISE, 2009).

By its unique positioning and methodology, this thesis expands research into SRL, which predominantly has been explored in adolescent settings (e.g. Cleary & Zimmerman, 2004; Harrison & Prain, 2009; Pintrich & De Groot, 1990; Ziegler, et al., 2008; Zimmerman & Kitsantas, 2014) and with college students (e. g. Acee & Weinstein, 2010; Leutner, et al., 2007; Nückles, et al., 2009; O'Keefe &

Linnenbrink-Garcia, 2014). It also complements the understandings in this field, which largely have used survey methods, with the nuance and richness the qualitative accounts provide in relation to students' and teachers' experiences.

Furthermore, this thesis contributes to formative assessment understandings by explicitly exploring how assessment as learning can be used to enhance students' autonomy as learners by connection to their values, interest and perception of themselves as individuals.

This thesis also makes a constructive, counter-balancing contribution to the largely measurement-driven use of assessment (Lingard & McGregor, 2014). It even uses elements of the contested large-scale assessment of the NAPLAN (Klenowski & Wyatt-Smith, 2014; Lingard, 2010; Lingard & Sellar, 2013), to provide a base for its quantitative findings. Furthermore, it uses the NAPLAN marking rubric as a constructive tool to help teachers clarify success criteria and use it productively in the ongoing teaching. Indeed, to echo the definition of creativity, this thesis presents an innovative and appropriate use of the NAPLAN marking rubric as a teaching resource and as an instrument of practitioner research.

### **CREATIVITY, COMPETENCE AND ENGAGEMENT IN A TRIADIC FRAMEWORK**

To clarify the synthesised insights of how SDA shapes learning, an integrated illustration of triadic factors from the intrapersonal domain, the social/environmental domain and the behavioural domain follows (see Figure 8.1). The aim is to clarify how different factors within the triad were dominant in influencing students' learning, in respect of creativity, competence and engagement.

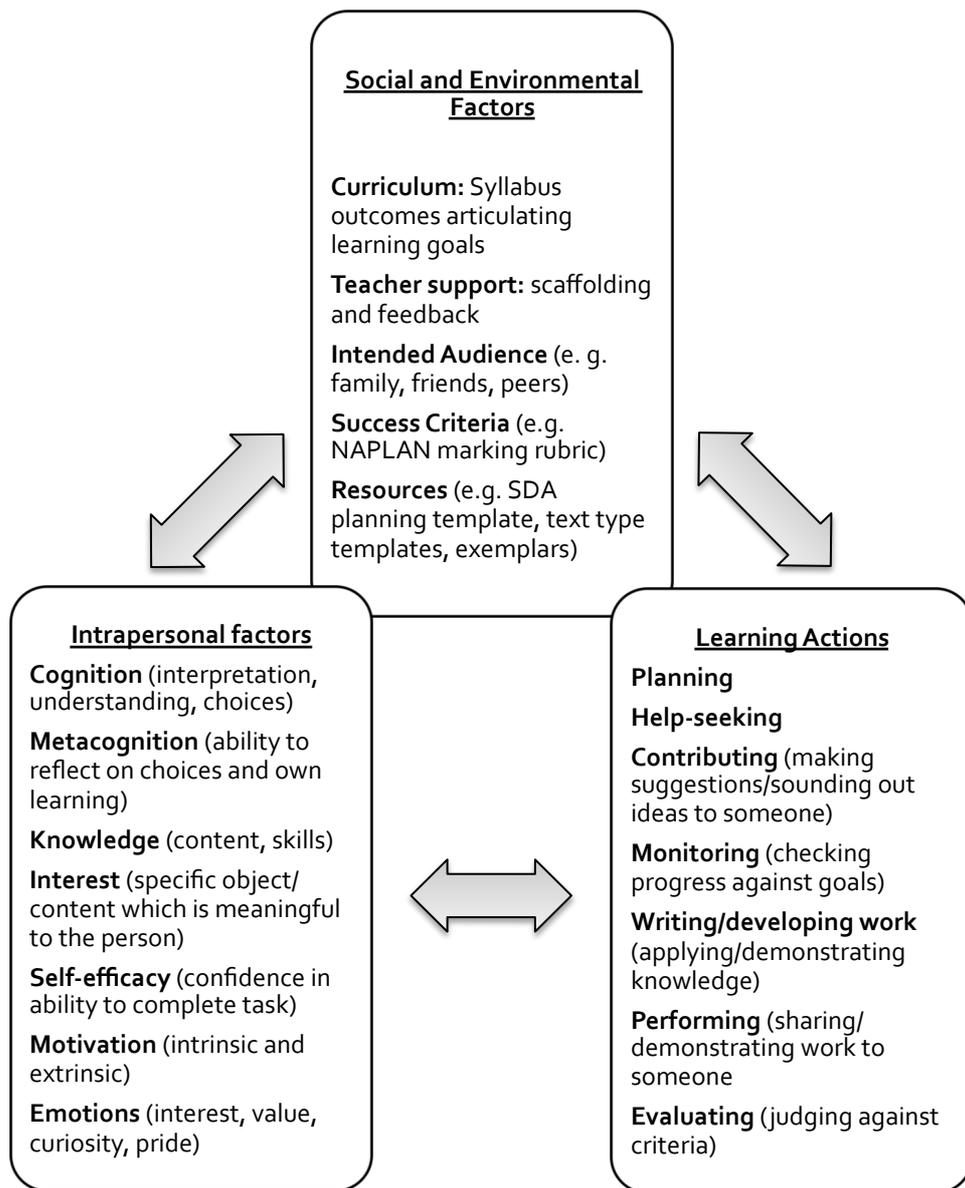


Figure 8.1: The triadic influences of SDA

From its perspective of social cognitive theory, this thesis into SDA places SRL, and the ‘skill and will’ in respect of motivation and understanding, at the core. In adopting this stance, this study differs from the majority of formative assessment studies, by gaining understanding from a social cognitive theoretical construct, rather than a sociocultural framework. Conversely, this thesis explores assessment as learning from a reciprocal perspective, which largely is shaped by the student’s intrapersonal factors. With respect to its emphasis on cognition, this is not a study of intelligence—but it certainly is a study of understanding.

At the centre of assessment as learning is the students’ central role as a metacognitively engaged connector between prior understandings and next steps in the learning journey (Earl, 2013). In respect of conceptualising SDA, other key intrapersonal factors such as self-efficacy, interest, values, emotions and motivation are brought to the fore as part of the intrapersonal dimension that shapes learning. Importantly, these intrapersonal factors reciprocate with social factors, which in the SDA context both relate to the teacher’s role and external influences such as curriculum goals.

The teacher’s role in the SDA process is to mediate, facilitate and help scaffold the students’ cognitive and metacognitive engagement as they actively seek to address the external learning goals. Thus, the student is supported by the teacher throughout the processes of planning, directing, monitoring and reflecting on their learning.

This, in turn, impacts on the agentic engagement that students demonstrate, in respect of learning behaviours in the process. The behaviours entail planning and

monitoring their learning, which is part of SRL. However, as Reeve points out, agentic engagement is not a teacher-directed process—it is a process of transaction, in which the student constructively contributes to the flow of instruction (Reeve, 2013). In the SDA context, this is what gives the process its name. Students *direct* their learning towards a goal, which is framed by the syllabus, as a macro environmental factor. In line with the idea of triadic reciprocity, this is important because this external factor influences the learning that takes place, which reciprocates with the student's intrapersonal cognition, motivation, interest and integrated values. The students do not embark on a learning journey framed by their interests alone. But students do reciprocate with their interpretation and personal interests as they connect with the learning outcome and drive their learning forward.

Similarly, the teachers act in a triadically reciprocal fashion, which is part of the transactional relationship Reeve (2012, 2013) has conceptualised. They tailor their instruction and feedback, which largely is initiated by the students, as they seek help at a point of need, when they are receptive to the guidance of the teacher and can relate the instruction to the context of the task at hand. Importantly, the task is one that the student is intrinsically motivated to persist with, as they chose it in the first place, and the task connects with their interests.

Self-efficacy is a crucial influence in the SDA learning process. As discussed in this thesis, the study's findings also suggest that students' self-efficacy was enhanced by the SDA approach. In particular, students whom teachers perceived as often being hard to motivate, or being at the lower range of ability in the class, particularly appear to have benefited from the SDA approach. Their teachers noted that they

persisted more than usual with the challenges of learning, and also produced work of a higher standard.

This thesis posits that the increase in these students' effort, motivation and competence was the result of students' perception of control of the task. The students' sense of control was enhanced by the SDA step of making choices as part of the task analysis and strategic planning. This, in turn, made it possible for students to make choices in their learning in a manner that built their confidence to complete the task. Other studies have also found a strong correlation between interest, self-efficacy and self-regulation (Lee, et al., 2014). In the SDA study, students' own choosing resulted in a 'positive circle' because, as previous research has established, there is a clear link between self-efficacy, persistence, motivation and performance.

Significantly, the SDA approach presents an effective way to scaffold students in developing self-efficacy through assessment as learning. SDA starts within the students' comfort zone, and because the student is an agent in this learning process, this zone is accurate and meaningful to them. As exemplified numerous times in this thesis, when placed at the core of the learning process, the SDA students frequently surprised their teachers by demonstrating previously unnoticed dimensions of themselves as learners in respect of ability, interest and motivation.

#### *The teachers' role*

The findings from this study indicate that the Year 4 cohort had a different experience of using the SDA process, compared to the groups in Year 2 and Year 6.

This is poignant from the perspective of triadic reciprocity because this noted difference emphasises the importance of all three domains of factors. In this case, the domain of situational and social factors, such as support and scaffolding, appear to have differed.

In the case of the Year 4 cohort, the interview data indicated that time considerations were a significant influence on the teachers' decisions, which in turn had consequences in respect of scaffolding and support for the students. Out of the three Year 4 SDA teachers, two raised time and timing of the project in their interviews. In particular, these considerations referred to the teachers' decisions in regard to how they conducted the project in their classes; decisions that in turn reflected situational factors in the form of conflicting demands and the challenges of a crowded timetable. Due to time constraints, two of the Year 4 teachers decided to conduct the project in a short space of time in their classes, which in turn impacted on the learning behaviours, choices and understandings that the students in Year 4 demonstrated.

This resulted in the SDA project being run more to the 'letter' than the 'spirit' of the SDA, to echo concerns raised by Martin Marshall and Mary Jane Drummond (2006) with respect to the way teachers enact AfL practices in their classrooms. Marshall and Drummond (2006) found that only a few teachers used AfL to effectively promote learner autonomy; and those who did saw it as a key goal of their teaching. Such teachers adopted an agentic approach to teaching and used lessons in a progressive manner, in which new insights and challenges were embraced. Similar

teacher views on scaffolding effective feedback have been put forward more recently by Min Yang and David Carless (2013).

The same sort of agentic and constructive approach was not reflected in accounts from these Year 4 teachers. Rather, these teachers approached the project and the curriculum demands in a manner which indicated a focus on quantity and on assessment 'of' learning. The teachers reasoned that there was a lot to cover in the syllabus, and therefore the project had to be kept short. This illustrates Earl's argument that assessment of learning frequently is used in a manner that leaves little room for alternative approaches of assessment (Earl, 2013).

Again, from a social cognitive perspective, these decisions made by the individual teacher in response to situational and environmental factors in turn raises considerations about the issue of teachers' self-efficacy and belief in their competence and confidence to exercise their professional judgement. This suggests that for the SDA to work well, the teachers as well as the students need to be scaffolded and supported. This is an issue to explore further, in future studies.

By contrast, the more experienced teachers in Year 6 exercised their professional judgement differently, compared to the Year 4 teachers. While the Year 6 teachers also found that the SDA project was a time-consuming exercise, they embraced it. Their interpretation of the SDA approach taking longer than they had anticipated prompted their consequent action to allow the learning process to evolve into a deep, time-consuming—but richly rewarding—learning process. As such, they showed autonomy as teachers.

Both the Year 6 teachers and the Year 2 teachers noted that students who normally were difficult to motivate, showed engagement in the learning process and demonstrated a higher degree of SRL in respect of persistence, effort, motivation and cognition than they normally would. This realisation confirmed their professional judgement of extending the time for the project, thus allowing the assessment process to inform their practice.

These teachers also noted the creative and novel approaches the students demonstrated; with respect to directing their learning and meeting the learning outcomes from the syllabus. By taking a step back and allowing the students to take genuine ownership of their learning, the teachers found their role shifted slightly. Like the teachers noted by Marshall and Drummond (2006), to teach in “the spirit of AfL” they allowed the students to broaden their professional horizons by showing creative and novel yet appropriate and challenging ways to contribute and develop the learning process.

Importantly, the teachers had a key role in this; they supported the students and contributed very constructively to the students’ learning process by teaching at the point of need, which often was initiated by the students as they sought help. This was a highly rewarding experience for the teachers. They perceived that they provided meaningful, individualised instruction to learners who really were receptive! Several of these teachers commented in their interviews that the SDA process had made them feel good about themselves as teachers because they really felt that they helped make learning individually meaningful for their students. To

this end, the SDA process appears to have stimulated autonomy in both students and teachers.

As such, the SDA approach serves precisely the purpose which Earl and colleagues argued is essential to maximise learning—it puts the student at the core of the process as a critical connector between their prior understandings, knowledge and self-motivational beliefs.

### **RECONCEPTUALISING ASSESSMENT: IMPLICATIONS FOR TEACHING AND LEARNING**

Contrary to the dominant approach of applying a sociocultural framing to assessment, and exploring understandings as situated practice, this thesis views the social factors as only one part of the triad.

By using a perspective of triadic reciprocity to conceptualise assessment as learning, this presents a broadened view of assessment as learning, which includes students' intrapersonal factors, together with the syllabus outcomes and the situational classroom context, with the teacher as an expert consultant who provides technical support to the student in the learning process.

As described in Chapter 1, this thesis draws on what James (2008) has called the 'third generation of assessment practice', and seeks to build on this generation's formative use of assessment by exploring a *fourth generation* of assessment; assessment as learning. This study does so by its use of mixed methods to clarify the reciprocal connections among the individual learner, social influences and the practice of integrated learning and assessment.

As such, the SDA approach presents an alternative approach to formative assessment. The teachers in the SDA approach exercise their professional judgement *in response* to the path, which students are scaffolded to direct towards the learning outcome. This is a reciprocal alternative to a unidirectional TDA, in which teachers use their professional judgement to set a scene for learning, aimed at developing the next steps of the students' understanding.

Earl has described self-assessment as a process in which the student is the critical connector between assessment and learning—and between prior knowledge and new understandings. The SDA approach presents a shift in perspectives in this regard. It places the teacher as a connector and facilitator between students' prior knowledge and their new understandings, in a process that is led and directed by the student. By doing so, the SDA approach expands the concept of assessment as learning. To this end, SDA is a process, which is framed and driven by the constructive and dynamic interplay among three domains. The domains include: intrapersonal factors of the individual students and teachers; situational factors with respect to the classroom and school context, framed by the curriculum demands; and the nuanced learning and pedagogical behaviours that ensue. Thus, the SDA approach contributes to classroom practice and formative assessment, which in turn is a step forward in regard to the wider discourse of improving educational outcomes.

While the discourse of improving nationwide educational outcomes in Australia at present is dominated by a measurement and accountability focus, the SDA approach presents an alternative form of intelligent accountability (Klenowski, 2013; Klenowski & Wyatt-Smith, 2014; O'Neill, 2002, 2013; Sahlberg, 2007, 2010).

### *Intelligent accountability*

Intelligent accountability, as described by O'Neill (2002, 2013), is an example of a triadic reciprocal relationship of the individual, the wider social framework, and the professional practices accounted for. O'Neill (2002, 2013) stresses that intelligent accountability is squarely focused on the proper aims of professional practice, which in an educational context means that practice should focus on teaching and learning rather than on publishing targets in tables.

As such, the SDA approach presents as a constructive way forward, to reconfiguring the balance between learning and the different purposes of assessment (Earl, 2013). While the SDA approach is squarely aimed at using AfL in a student-centred manner, the product of the learning process provides a nuanced, appropriate and intelligent account of students' learning and the teacher's practice.

### **Limitations**

The degree to which the present study's findings are transferrable to other settings (Evans, 2013) is weak, since the study was a one-setting, cross-sectional form of practitioner research, which uses mixed-methods research techniques in a concurrent, parallel design that used cluster and criterion sampling, rather than random sampling (Bryman, 2012).

As Bryman (2012) stressed, cross-sectional comparisons produce associations, not unambiguous causal inferences. Thus, this study's findings provide insight into how SDA is associated with different influences on learning, in the context of students in years 2, 4 and 6 at one independent school in the Northern Territory.

## **Recommendations**

The following three recommendations are made, based on this thesis's findings.

1. Learning outcomes from the syllabus need to be translated by teachers into language that students can understand and used in classroom practice. By sharing the overall goals with the students, the teacher and the students can together identify the opportunities to integrate students' personal interests and creativity in the learning process, as the targeted syllabus outcomes are addressed.
2. Use the forethought step of the learning process productively. This step presents the opportunity to provide individualised support for students while they develop and cognitively engage in strategic planning. This helps build students' understandings and skills as learners. It scaffolds students' ability to analyse tasks and develop SRL skills, which build control of learning. Helping students to develop a sense of control of their learning builds self-efficacy and motivation to persist with their learning because the student has had input in designing the task.
3. Integrate recording and documentation of the learning process with respect to students' planning, drafting and development of their work as part of the process. This provides a holistic account of the teaching and learning activities, which help inform future teaching and learning. By additionally recording teacher input and resources to scaffold students' learning, it is also an intelligent account of the teacher's professional practice.

### **A personal concluding remark**

As explained in the introductory chapter, this study originated from my firm belief that giving students the opportunity to exercise choice and direction in their learning had significant benefits for students' learning.

Having now engaged in critical reflection of teachers' practice and consulted numerous sources of scholarly investigation of these issues, I now feel very confident in my assertion that this is indeed the case. I have also come to understand that such an approach does not only benefit students' learning—it also benefits teachers' learning and practice.

As such, I feel I have come a long way towards fulfilling my initial aim of lending insight into the pedagogical benefits of assessment as learning by exploring AfL from a social cognitive perspective. One of the central ideas in this thesis is the notion of how situational influences reciprocate with the individual's understanding, thinking, motivations and confidence in completing a task at hand, and how these factors in turn influence actions taken by that individual.

I was not aware of Bandura's concept of triadic reciprocity when I began my research in relation to this thesis. It is one of the many situational influences of this learning journey, which has contributed to my own personal knowledge and way of thinking. I hope that this thesis in turn reciprocates by prompting reflection and developing the understandings of the people who read it, and that they too find this thesis's insights meaningful.

It seems fitting to end this thesis with the educational goals expressed by the National Curriculum Board, based on the National Declaration on Educational Goals for Young Australians (MCEETYA, 2008a) because I think that they reflect the aim of the SDA approach explored in this thesis. They also capture what I feel this learning journey has involved for me personally, as a not-so-young learner and teacher.

**Educational goals for young Australians [as] Successful Learners**

[...]

are creative and resourceful and are able to think critically, analyse information and solve problems;

are able to learn and plan activities independently, collaborate and communicate ideas;

are motivated to reach their full potential ;

have the capacity to make sense of their world and think about how things became the way they are

are on a pathway towards further education, training or employment, and acquire the skills that support this, including an appetite for life-long learning

(National Curriculum Board, 2008, p. 3)



## APPENDICES

## Appendix A: CDU Human Research Ethics Committee Clearance

 **Charles Darwin**  
UNIVERSITY

Charles Darwin University  
Darwin, NT 0909 Australia  
[www.cdu.edu.au](http://www.cdu.edu.au)  
ABN 54 093 513 649  
CRICOS 00300K

---

**HUMAN RESEARCH ETHICS COMMITTEE CLEARANCE**

**NEW PROPOSAL**

**HREC REFERENCE:** H09009

**PROJECT TITLE:** A study into how assessment selected by students themselves affect learning outcomes.

**CHIEF INVESTIGATOR(S):** Mrs Anna Fletcher

The Charles Darwin University Human Research Ethics Committee has considered your project.

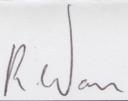
The Committee is satisfied that the research proposed in this project conforms with the general principles set out in the current National Health and Medical Research Council regulations, and with the policy of the Charles Darwin University.

It should be noted that data must be stored securely on campus. Storage in a central facility (with limited access if necessary) is available. Researchers should address any queries concerning data storage to their relevant faculty.

**Expiry date:** 29 April 2010

*Please Note:* A Final Report is due on completion of this project, or if the project extends beyond the expiry date a progress report is due before the date of expiry.

**APPROVED**

  
\_\_\_\_\_  
Chair,  
CDU Human Research Ethics Committee

  
\_\_\_\_\_  
Dated

c.c. Supervisor, Greg Shaw

---

Research Office, Casuarina Campus Ph: 08 8946 6498 Fax: 08 8946 7199 Email: [cdu-ethics@cdu.edu.au](mailto:cdu-ethics@cdu.edu.au)

---

Casuarina Campus Ellengowan Drive, Darwin Palmerston Campus University Avenue, Palmerston  
Postal Address: Darwin, Northern Territory 0909 Australia  
Telephone: +61 8 8946 6666 Facsimile: +61 8 8927 0612

## Appendix B: Information to Principal



### Research Project Information for the Principal of [REDACTED]

***Project title:***

“A study into how assessments selected by students themselves affect learning outcomes”

***Aims of the project***

The research project is a study into how primary school students’ learning is affected by students’ involvement in choosing methods of assessment. The research will focus on two tangents. Firstly, students’ and teachers’ attitudes in regard to effective ways for students to learn and demonstrate knowledge will be investigated in questionnaires and interviews. Secondly, the research will examine students’ results in assessments where students have selected the method of assessment compared to students’ results in assessments, which have been determined by the teacher.

An integral part of this approach to assessment is the teacher’s role in clarifying to students what learning outcomes in the curriculum are being targeted in the assessment. It requires teachers to make students aware of the specific learning goals, and together with the students themselves specify criteria for how knowledge may be assessed. The approach involves students in choosing the assessment method as well as developing marking criteria for the assessment. However, the teacher remains in charge of assessment in terms of scoring and grading. My belief is that the benefit of the approach lies in how students’ involvement in determining how to demonstrate their knowledge appears to engage the students and thus lead to better learning.

The approach will be referred to as *Student-Selected Assessment Methods*. The project is focused on learning outcomes in Literacy, as these learning outcomes constitute a core of the curriculum and are constantly taught at all year levels.

Through discussions with teaching colleagues, particularly in anticipation of embarking on this research project, it has become clear that I am not alone in perceiving that students learn better by negotiating classroom assessments. Several of my teaching colleagues claimed to have used student-negotiated assessment and found it to have been a successful approach to engage students in their learning. My research and thesis aims to investigate whether students’ involvement in determining assessment methods can be demonstrated to be a more effective method of assessment in comparison to teacher-selected assessment.

The intention is to expose the hypothesis to scrutiny through learning experiments in order to gain quantitative data. In addition, the research will investigate how teachers and students perceive assessment in general and in particular what they view as effective ways of learning and demonstrating knowledge. The research project will focus on two tangents; an inductive tangent which investigates students’ and teachers’ attitudes in regard to effective ways for students to learn and demonstrate knowledge; and a positivist tangent which focuses on comparing students’ results in assessments where they have been engaged in selecting the method of assessment compared to students’ results in assessments which have been determined by the teacher.

The intended project draws on assessment and learning theories from the fields of constructivist pedagogy, formative assessment and self-assessment. The intention is to combine key principles of these theories in a practical approach to implementing and experimenting with student-centred assessment.

### ***Researcher responsible for project***

The research project will be conducted at [REDACTED] by me, Anna Ingrid Katarina Fletcher in my capacity as a Doctor of Teaching candidate at Charles Darwin University.

### ***Classes involved***

Students and teachers in two classes from years two, four, and six will be invited to participate in the study. One class per year level will be randomly assigned to apply student-selected assessment while the other class in the year-level applies teacher-selected assessment.

**Students** who participate in the study will be involved in the following elements:

1. Answering two anonymous questionnaires about their attitudes towards assessment and their preferences of demonstrating knowledge
2. Participating in a Literacy assessment as part of the classroom routine. Both classes in each year level will be assessed for the same reading and writing outcomes, against the same criteria. However, students in one class will individually nominate and select **how** they will demonstrate their knowledge. Students in the other class will have their assessment determined by the teacher.
3. A randomly selected group of three students from each participating class will be interviewed by Katarina Fletcher about their attitudes towards assessment and preferred ways of demonstrating knowledge. A follow-up interview will be conducted with the same students after the second assessment has been conducted. The purpose of the interviews is to provide students with the opportunity to elaborate their thoughts on assessment in spoken answers. The student interviews will be recorded on tape for the purposes of transcribing answers. The tape recordings and transcripts will remain confidential and students' names will not be published. The student interviews will be conducted during school hours, in Katarina's planning time.

**Teachers** who participate in the study will be involved in the following elements:

1. Attending an information meeting about the project.
2. Answering two anonymous questionnaires about their attitudes towards assessment and their preferences of demonstrating knowledge.
3. Conducting a Literacy assessment as part of the classroom routine. Both classes in each level will be assessed for the same reading and writing outcomes, against the same criteria. However, students in one class will individually nominate and select **how** they will demonstrate their knowledge. Students in the other class will have their assessment determined by the teacher. The assessment will be marked by the class teacher, as well as by Katarina Fletcher. These assessments may be used as a moderation tool in conjunction with writing semester reports.
4. Participating in two interviews about assessment and students' demonstration of learning. The interviews will be conducted at the beginning and end of the project. The teacher interviews will be recorded on tape for the purposes of transcribing answers. The tape recordings and transcripts will remain confidential and students' names will not be published. The interview will take approximately 45 minutes and be conducted in after school hours, at a time, which is convenient for the teacher.
5. Participation in three scheduled, semi-structured discussions of what scaffolding methods are required to implement student-selected assessment methods to teaching a primary school

class. The first two discussions will be held at the beginning of the project and will be followed-up in the third meeting at the end of the project. The discussions will be conducted at school at a time convenient to all teachers involved in the project. Each meeting is estimated to last for approximately 45 minutes.

***Data collection and storage:***

In addition to the data collected in teachers' questionnaires and interviews, the project will collect students' assessments results from the assessment. Photographs may be taken of students' assessment samples for the purposes of illustrating the research report. Data from prior tests such as the National Assessment Program and the Semester 1 moderation task will be used to obtain prior class' average results. The class' pre-test average will be used only to determine if there are differences in ability between the classes prior to the research project.

All data collected in this study will remain confidential and will be used for research purposes only. Upon the project's completion, data will be securely stored for a period of five years and then destroyed. Should parents wish to withdraw their child from the project, or teachers wish to withdraw from interviews or submitting questionnaires, they are free to do so at any time. Any requests to be withdrawn from the project need to be given in writing to Katarina Fletcher. All relevant data will be destroyed upon a submitted request for withdrawal.

A summary of the overall results of the study will be available to parents and teachers through the [REDACTED] School. No names or personal details of individual students or teachers will be revealed at any stage of the research project or in the report.

If, during the course of this project, you as a Principal have any concerns about the procedures used or the researchers' methods, you are invited to contact an independent officer of the University with your concerns. Please contact the Executive Officer of the Charles Darwin University Human Research Ethics Committee on 08 8946 6498 or by e-mail: [cdu-ethics@cdu.edu.au](mailto:cdu-ethics@cdu.edu.au)

Further information about the study can be obtained by telephoning:

Katarina Fletcher on 08 8948 1255 or email: [Katarina.Fletcher@\[REDACTED\]](mailto:Katarina.Fletcher@[REDACTED])

***This information sheet is yours to keep.***

## Appendix C: Principal's Consent Form



### Principal's Consent Form

**PROJECT TITLE:** "A study into how assessments selected by students themselves affect learning outcomes"

I, ..... of .....  
.....

**Hereby give consent** for the study to be undertaken by Anna Ingrid Katarina Fletcher at [redacted] and I understand that the purpose of the study is an investigation of how primary school students' learning is affected by students' involvement in choosing methods of assessment.

Firstly, the research will investigate students' and teachers' attitudes in regard to effective ways for students to learn and demonstrate knowledge. This investigation will involve students and teachers in answering two anonymous questionnaires. In addition, two interviews with teachers and a sample group of eighteen students will be conducted by Katarina Fletcher over the school year.

Secondly, the research project will examine students' results in assessments where students have selected the method of assessment compared to students' results in assessments, which have been determined by the teacher. These assessments are intended to be part of the ongoing Literacy assessment in class. The assessments will be conducted over the course of the 2009 school year and are to be part of the ongoing Literacy assessment in class. The assessments will not constitute an additional assessment or impact on the workload of students and teachers.

I understand that if a parent or guardian wishes to withdraw their child/dependent from participating in the research, the child's assessment of Literacy learning outcomes will be selected by his/her class teacher, and the results will not given to the researcher.

I understand that if a teacher wishes to withdraw from participating in questionnaires and interviews, any information obtained about them will be returned to them or destroyed at the teacher's request.

**I acknowledge that:**

- I have read the *Research Project Information for the Principal* and the aim, methods and anticipated benefits, and possible risks of the research study have been explained to me,
- I voluntarily and freely consent to students and teachers at [redacted] participating in the research study,
- aggregated results will be used for research purposes and may be reported in scientific and academic journals,
- individual student results **will not** be released to any person other than the child's class teacher,
- teachers **will not** be individually identified or linked to their class' performance in assessments in any report or publication, and;
- I am free to withdraw my consent at any time during the study, in which event [redacted] School's involvement the research study will immediately cease, and any information obtained will be returned to the participants or destroyed at their request

Signature: ... [redacted] ..... Date: 27/03/09

## Appendix D: Consent form for Parents/ Guardians



### *Consent Form on Behalf of a Minor or Dependent Person for*

**PROJECT TITLE:** "A study into how assessment methods selected by students themselves affect learning outcomes"

I, ..... of .....

**Hereby give consent** for my son/daughter/dependent ..... to participate in a study to be undertaken by Anna Ingrid Katarina Fletcher at [REDACTED]

I understand that the purpose of the study is an investigation of how primary school students' learning is affected by students' involvement in choosing methods of assessment. Firstly, the research will investigate students' and teachers' attitudes in regard to effective ways for students to learn and demonstrate knowledge. Secondly, the research project will examine students' results in assessments where students have selected the method of assessment compared to students' results in assessments, which have been determined by the teacher.

I understand that if I wish to withdraw my child/dependent from participating in the research, his/her assessment of Literacy learning outcomes will be selected by his/her class teacher, and the results not given to the researcher.

**I acknowledge that**

- The aim, methods and anticipated benefits, and possible risks of the research study have been explained to me
- I voluntarily and freely consent to my child's/dependent's participation in such research study
- Aggregated results will be used for research purposes and may be reported in scientific and academic journals
- Individual results **will not** be released to any person other than my son's/daughter's class teacher, except at my request and on my authorization
- I am free to withdraw my consent at any time during the study, in which event my child's/dependent's participation in the research study will immediately cease, and any information obtained will be returned to me or destroyed at my request

Signature: ..... Date: .....

## Appendix E: Student Consent Form

### Student Consent Form

---

Student's name: \_\_\_\_\_

Class: \_\_\_\_\_ Date: \_\_\_\_\_

You have the chance to take part of a special research project in your class. The project will investigate if students learn better when they get to make choices in their writing tasks, compared to when the teacher chooses the tasks.

If you decide to take part in the research, you will be asked fill out a sheet with questions about how you like to show what you have learned. You, together with another student from your class, may also be interviewed by Mrs. Fletcher.

Please tick one of the boxes to show if you would like to take part in the project.

I would like to be part of the research. I understand that I may be asked to choose my own writing tasks.

I **do not** wish to be part of the research. Instead, my teacher will choose what writing tasks I need to do.

## Appendix F: Student Interview Script

### Semi structured interview script for students

Students' pseudonyms:

Date:

Year level:

Group: SDA TDA

Interview:

1

2

Introduction:

Today I will ask you some questions about what activities you do during English lessons in your class. The reason why I would like to interview you, is that I am curious find out more about what students think about how they best learn more about reading/writing/listening and speaking.

I will ask you about "learning activities", which means the different activities you do in class to learn new things or check what you have learned. So, a "learning activity" might be that you read a story in class, talk about it in class and then the students write their own story. OK?

If I ask you a question that you are not sure what I mean by, please let me know, so that I can explain it better to you. If you feel that you don't want to answer some questions, that is fine. You do not have to answer anything you don't want to, so just let me know.

Some of these questions which I will ask you, are quite similar to the questions you were asked to answer on a sheet in class (show copy of sheet). The reason why I will ask you similar questions is because I think you might feel that it is easier to say what you think about learning activities, rather than write your answers down. OK?

Do you mind if I use a tape recorder to record your answers, so that I don't miss anything you say when I write down what you say? YES NO

Ok, shall we start?

*Interview 1:*

**Purpose: Establish confidence**

1. What year are you in?
2. What is your favourite learning activity in class?
3. Why do you like it?

**Purpose: Gauge enjoyment and confidence in Literacy**

4. Do you like reading?
5. What was the last book you read in class?
6. Have you read any other types of text in the last week? (At home? In class?)
7. Do you like writing?
8. What was your last writing task in class?
9. Did you enjoy it (the writing task)?
10. Would you say that you are you good at writing?
11. What makes you a good/not so good writer?
12. Are you better at writing any particular type of text?

**Purpose: Establish preferred assessment methods in Literacy**

1. What are your favourite activities during English lessons?
2. Why?
3. Do you think these activities show off your learning in English (“what you can do”/ “how well you can read/write”)?
4. Can you suggest any other reading/writing, which you would like to do in class?
5. Why would these activities be good to do in class?

➤ **Interviews 1 and 2:**

**Purpose: Clarify teacher feedback on the examples of tasks mentioned by students**

6. What did your teacher say when he/she read your [last piece of writing]?
7. How did his/her comment make you feel?
8. When you start a new writing task in class, do you try to remember what the teacher said about your last piece of writing? (Why? How?)

➤ **Interview 2 only – follow up after project**

**Reconnect with Interview 1**

1. What was your last writing task in class?
2. Did you enjoy it (the writing task)?
3. Would you say that you are good at writing?
4. What makes you a good/not so good writer?
5. Are you better at writing any particular type of text? (why?)

**Purpose: Student feedback on SDA**

9. In your class, am I right to think that you have been doing a writing project where you chose your own text to write? (If students in SDA group answer “NO”, prompt by showing SDA planning template)
10. Can you tell me what you had to do with this sheet?
11. What type of text did you choose to write? (Why?)
12. Who did you write the text for? (Why?)
13. Did you talk to them about your text?
14. Did you read your text to them?
15. What would you describe that it was like –to choose what text to write – compared to when your teacher decides the activity?
16. When do you think that you learn better; when you choose the task or when the teacher chooses the task? (Why?)
17. Is there anything you would like to change on the planning template?

## Appendix G: Teacher Interview Script

### Guiding questions for teacher interviews

Teacher code:

Date:

Year level:

Group: SDA TDA

Interview:

1 2

Introduction:

Thanks for letting me have the opportunity to interview you about Literacy assessment and your experiences of the student-selected assessment project. The purpose of these interviews is that I would like to know more about how you have experienced the project and how you feel that assessment methods in Literacy can be improved.

I will ask you about “learning activities”, by which I mean the different activities you do in class to *introduce* and *work on* new concepts *as well as check* what the students have learned. In other words, “learning activities”, in which assessment informs your teaching and the students’ learning.

If I ask you a question that you are not sure what I mean by, please let me know, so that I can explain it better to you. If you feel that you don’t want to answer some questions, just say so, and you will not have to answer.

Also, I wish to stress that this interview is confidential. I will not use your name or any other form of identification in any report or publication. This interview, and the data gathered in the research project, is not privy to the school. The school will only have access to the final report, in which no individual students or teachers will be identified. If you wish to check the transcript from this interview, to check that it is accurate, please let me know.

Do you mind if I use a tape recorder to record your answers, so that I don’t miss anything you say when I write down what you say? YES NO

Ok, shall we start?

*Interview 1 (before running project in class)*

**Purpose: Establish confidence**

1. Including this year, approximately how many years have you worked as a teacher?
2. What is your favourite subject to teach?
3. Why do you like it?

**Purpose: Focus on own learning preferences and attitudes towards assessment**

4. How would you describe your own learning preferences?
5. Do you believe that your own learning preferences affect to your methods of teaching? (If so, how?)
6. Would you say that you have preferred way of demonstrating what you have learned? (Why?)
7. In your own opinion, what would you say are major factors, which affect your students’ learning?
8. What do you do to gauge if a learning activity is successful in your class?
9. What do you think characterises effective ways to assess your students?
10. What factors do you think affect students’ assessment results?

*SDA teachers only*

*Interview 1 and 2*

**Purpose: Identify attitude towards implementing Student-Directed Assessment Methods**

11. What are your thoughts about initiating the SDA approach in your class, by asking students to plan and make choices in respect to text type and audience?
12. Interview 2: Thinking back: What were your thoughts about initiating the SDA approach in your class, by asking students to plan and make choices in respect to text type and audience?
13. In your role as a teacher, what practical aspects do you believe need to be addressed if students are to select their own methods of demonstrating knowledge?

*Interview 2- Follow up with SDA teachers after project completion – (loose points for discussion)*

**Purpose: Teacher feedback on SDA template – questions to be asked after SDA project**

- How did you find using the SDA planning template with your class?
- Did you notice any differences in students' learning, during the project?
- What do you think was the reason for *noticing/not noticing* differences in students' learning during the project?
- In your opinion, did any students in particular stand out during the project (effort, attitude, result?)
- Is there anything you would like to change on the planning template?
- How did you find SDA as an assessment tool?

## Appendix H: Year 2 SDA planning template

Student-directed assessment template  
Literacy - NTCF Band 1

*Student's name:* \_\_\_\_\_ *Class:* \_\_\_\_\_ *Term:* \_\_\_\_\_

Dear Student,

This is a planning sheet which helps you set out your work and create a checklist for your writing.

Try to plan, draft and check your writing by yourself before showing your plan to your teacher.

**Good luck!**

TOYS FOR SALE

*I am selling some of my old toys. Come and grab a bargain!*

*5 toy cars. \$2 each*  
*2 tennis rackets. \$5 each*  
*1 cuddly bear toy. \$10*

*Dear Nanna,*

*I am having a great time on my holidays here in Sydney. I have been to Taronga Zoo and Luna Park.*

*I miss you!*  
*Sara*

*Mrs Smith*  
*23 Keppel St*  
*Bathurst*  
*NSW 2795*

How to make pancakes

**You need:**  
2 cups of milk  
1 cup of self-raising flour  
2 eggs  
a pinch of salt

**Instructions:**

- Crack the eggs into the bowl, mix some of the flour in.
- Add a small amount of milk and continue to mix.

The Mystery at Moon Shadow Castle

**It was a dark and stormy night. The wind was howling and the rain came pelting down like spikes from the sky. Robert couldn't sleep for all the rain. He got up and peered through the window into the dark, wet night.**

**A rugged figure in a dark coat came scurrying up the hill leading to Moon Shadow Castle. The figure stopped under a tall tree by the side of the castle. It looked like the figure was carrying something heavy.**

1

Learning outcomes: What will I learn?

WRITING

Band 1	
Text and Audience	To write texts about different things
Structure	To use the rules for writing
Strategies	To use the rules for planning and checking what I write

<u>Text and Audience</u>	<u>Structure</u>	<u>Strategies</u>
<p>Use my ideas to write:</p> <ul style="list-style-type: none"> <li>• Stories</li> <li>• Recounts</li> <li>• Reports</li> <li>• Instructions</li> <li>• Letters</li> <li>• Poems</li> <li>• Messages</li> </ul> <p>Use writing and pictures in my work to help the reader understand what I mean.</p>	<p>Stories:</p> <ul style="list-style-type: none"> <li>• Beginning</li> <li>• Problem</li> <li>• Solution and end</li> </ul> <p>Recounts:</p> <ul style="list-style-type: none"> <li>• What happened, when?</li> <li>• What did I think about it?</li> </ul> <p>Reports:</p> <ul style="list-style-type: none"> <li>• What is it?</li> <li>• What is it like / How does it work?</li> <li>• Why is it like that?</li> </ul> <p>Instructions:</p> <ul style="list-style-type: none"> <li>• What do you need?</li> <li>• In what order do you do things?</li> </ul>	<ul style="list-style-type: none"> <li>• Write a draft</li> <li>• Sound out words</li> <li>• Check spelling</li> <li>• Check sentences</li> <li>• Write a good copy</li> <li>• Do I need a picture?</li> <li>• Publish my work</li> </ul>



*Why have I chosen to show my work in this way?*

---

---

---

---

---

---

---

---

**Self-assessment:**

*How did I improve my writing skills?* ☆ ☆ ☆ ☆ ☆

*How would I rate my finished work?* ☆ ☆ ☆ ☆ ☆

*What did I do the best?*

---

---

---

---

*What can I improve?*

---

---

---

---

*Teacher's feedback:*

---

---

---

---

---

---

---

---

## Appendix I: Year 4 SDA planning template

Student-directed assessment template

Literacy - NTCF Bands 2 and 3

Student's name:

Class:

Term:

Dear Student,

This is a planning sheet which helps you set out your work and create a checklist for your writing.

On the top of the next page you will find the writing goals for students in Year 4. Please read the writing goals carefully. It is these goals you need to aim for when you plan and write your text, no matter what text type you choose to write. Use the checklist on page 3 to write down what you will need to do to reach these goals.

Try to plan, draft and check your writing by yourself before presenting your plan to your teacher or to a friend.

**Good luck!**

### My holidays

*Over the Christmas holidays I went to visit my family in Brisbane. Mum, Dad, my sister Lisa and I flew out on the first day of the break.*

*It was fun to ride on the big airplane. I got to sit by the window. When we flew out of Darwin, I could see*

### How to make pancakes

#### You need:

- 2 cups of milk
- 1 cup of self-raising flour
- 2 eggs
- a pinch of salt

#### Instructions:

1. Crack the eggs in a bowl and mix some of the flour...
2. Add a small amount of the milk

### The Mystery at Moon Shadow Castle

It was a dark and stormy night. The wind was howling and the rain came pelting down like spikes from the sky. Robert couldn't sleep for all the rain. He got up and peered through the window into the dark, wet night.

A rugged figure in a dark coat came scurrying up the hill leading to Moon Shadow Castle. The figure stopped under a tall tree by the side of the castle. It looked like the figure was carrying something heavy.

## Learning outcomes: *What will I learn?*

### WRITING

Band 2	Extension
Present your ideas and information so that the reader easily can understand. Set out your ideas in logical order when you write different types of texts.	Write different types of texts using your own knowledge, experience, thoughts and feelings in your writing. Write for the purpose to inform, argue, persuade, move and entertain readers.
Make your text interesting to the reader by mixing shorter and longer sentences which start in different ways. Use spelling rules to spell most words correctly.	Write developed texts which are easy for the reader to understand. Use imagination, information and arguments in your writing.
Use different strategies to plan, compose and review your writing. Check spelling and punctuation.	Use correct grammar and check that your writing is clear and effective.

<u>Text and Audience</u>	<u>Structure</u>	<u>Strategies</u>				
<p><u>How can I make my text interesting and engaging for the reader?</u></p> <ul style="list-style-type: none"> <li>Which text type will I choose for my writing? How is it structured?</li> <li>What are my thoughts and understanding? How will I show my views in the text?</li> <li>What descriptions will I use to make my reader understand what I am trying to say?</li> <li>How can I engage the reader? Should I use fantasy, humour, suspense, convincing arguments...?</li> <li>How will my choice of words affect my reader?</li> <li>How can I make my text convincing? Do I need to refer to other texts or show how I found my information?</li> <li>How can I be creative and choose to present my work in order to help my reader understand and become engaged?</li> </ul>	<p><u>How will I need to organise my writing to make it clear?</u></p> <ul style="list-style-type: none"> <li>How should the text type be structures? Do I need to set out an orientation, complication and resolution...?</li> <li>What content should I select? What is important?</li> <li>How does my writing make sense? Have I used clear sentences, correct spelling and punctuation?</li> <li>Have I started my sentences in different ways?</li> <li>Do I need to use a range of punctuation (. ! ? , " )?</li> <li>Is it clear who is speaking in my text? What sounds better – a passive voice or direct speech? Should I use quotes?</li> <li>Is time clear in my writing? Have I used verbs in the correct time form? (<i>I walked, he asked...</i>)</li> <li>Have I organised the text into paragraphs?</li> <li>Have I used graphics to improve meaning?</li> </ul>	<p><u>What planning will help improve my writing?</u></p> <ul style="list-style-type: none"> <li>Brainstorm ideas</li> <li>Use a sense chart to plan for how I am going to involve the audience                             <table border="1" style="margin: 5px 0;"> <tr> <td style="padding: 2px;">Thoughts</td> <td style="padding: 2px;">Feelings</td> </tr> <tr> <td style="padding: 2px;">Sights</td> <td style="padding: 2px;">Sounds</td> </tr> </table> </li> <li>Have I planned by selecting information and key ideas to use in my text?</li> <li>Is there a style of writing I can imitate to improve my writing?</li> <li>How can I make sure my draft is proofread and checked for spelling, punctuation etc.? Should I make a checklist for myself, work with a friend or use another strategy?</li> <li>What tools can I access to improve my writing? Dictionaries? Thesauruses? Computers?</li> <li>Have I written down the sources where I found my information?</li> <li>Could I use a template to check my writing against?</li> </ul>	Thoughts	Feelings	Sights	Sounds
Thoughts	Feelings					
Sights	Sounds					





## Appendix J: Year 6 SDA planning template

Student-directed assessment template

Literacy - NTCF Bands 3 and 4

Student's name:

Class:

Term:

Dear Student,

This is a planning sheet which helps you set out your work and create a checklist for your writing.

On the top of the next page you will find the writing goals for students in Year 4. Please read the writing goals carefully. It is these goals you need to aim for when you plan and write your text, no matter what text type you choose to write. Use the checklist on page 3 to write down what you will need to do to reach these goals.

Try to plan, draft and check your writing by yourself before presenting your plan to your teacher or to a friend.

**Good luck!**

### My holidays

*Over the Christmas holidays I went to visit my family in Brisbane. Mum, Dad, my sister Lisa and I flew out on the first day of the break.*

*It was fun to ride on the big airplane. I got to sit by the window. When we flew out of Darwin, I could see*

### How to make pancakes

#### You need:

- 2 cups of milk
- 1 cup of self-raising flour
- 2 eggs
- a pinch of salt

#### Instructions:

1. Crack the eggs in a bowl and mix some of the flour...
2. Add a small amount of the milk

### The Mystery at Moon Shadow Castle

It was a dark and stormy night. The wind was howling and the rain came pelting down like spikes from the sky. Robert couldn't sleep for all the rain. He got up and peered through the window into the dark, wet night.

A rugged figure in a dark coat came scurrying up the hill leading to Moon Shadow Castle. The figure stopped under a tall tree by the side of the castle. It looked like the figure was carrying something heavy.

Learning outcomes: *What will I learn?*

WRITING

Band 3	Extension
Write different types of texts using your own knowledge, experience, thoughts and feelings in your writing. Write for the purpose to inform, argue, persuade, move and entertain readers.	Write narratives with a clear sequence, consistent plot and developed characters. Persuade the reader with convincing arguments and well-presented information in factual texts.
Write developed texts which are easy for the reader to understand. Use imagination, information and arguments in your writing.	Control the necessary spelling, grammar, punctuation and text structure to clearly communicate ideas and information in text.
Use correct grammar and check that your writing is clear and effective.	Use a range of strategies to research, plan, compose, review and edit written texts to make sure that they are clear to the reader.

<u>Text and Audience</u>	<u>Structure</u>	<u>Strategies</u>				
<p><u>How can I make my text interesting and engaging for the reader?</u></p> <ul style="list-style-type: none"> <li>Which text type will I choose for my writing? How is it structured?</li> <li>What are my thoughts and understanding? How will I show my views in the text?</li> <li>What descriptions will I use to make my reader understand what I am trying to say?</li> <li>How can I engage the reader? Should I use fantasy, humour, suspense, convincing arguments...?</li> <li>How will my choice of words affect my reader?</li> <li>How can I make my text convincing? Do I need to refer to other texts or show how I found my information?</li> <li>How can I be creative and choose to present my work in order to help my reader understand and become engaged?</li> </ul>	<p><u>How will I need to organise my writing to make it clear?</u></p> <ul style="list-style-type: none"> <li>How should the text type be structured? Do I need to set out an orientation, complication and resolution...?</li> <li>What content should I select? What is important?</li> <li>How does my writing make sense? Have I used clear sentences, correct spelling and punctuation?</li> <li>Have I started my sentences in different ways?</li> <li>Do I need to use a range of punctuation ( . ! ? , “ ) ?</li> <li>Is it clear who is speaking in my text? What sounds better – a passive voice or direct speech? Should I use quotes?</li> <li>Is time clear in my writing? Have I used verbs in the correct time form? (<i>I walked, he asked...</i>)</li> <li>Have I organised the text into paragraphs?</li> <li>Have I used graphics to improve meaning?</li> </ul>	<p><u>What planning will help improve my writing?</u></p> <ul style="list-style-type: none"> <li>Brainstorm ideas</li> <li>Use a sense chart to plan for how I am going to involve the audience</li> </ul> <table border="1" style="margin-left: 20px;"> <tr> <td>Thoughts</td> <td>Feelings</td> </tr> <tr> <td>Sights</td> <td>Sounds</td> </tr> </table> <ul style="list-style-type: none"> <li>Have I planned by selecting information and key ideas to use in my text?</li> <li>Is there a style of writing I can imitate to improve my writing?</li> <li>How can I make sure my draft is proofread and checked for spelling, punctuation etc.? Should I make a checklist for myself, work with a friend or use another strategy?</li> <li>What tools can I access to improve my writing? Dictionaries? Thesauruses? Computers?</li> <li>Have I written down the sources where I found my information?</li> <li>Could I use a template to check my writing against?</li> </ul>	Thoughts	Feelings	Sights	Sounds
Thoughts	Feelings					
Sights	Sounds					





## Appendix K: NAPLAN Narrative Marking Rubric (Ministerial Council on Education, Employment, Training and Youth Affairs, 2008b)

# 1

## Audience

**Skill focus:** The writer's capacity to orient, engage and affect the reader.

	Category descriptor	Additional information	Sample scripts
0	– symbols or drawings which have the intention of conveying meaning		<b>Role play writer (17)</b>
1	– contains some simple written content		<b>Dungaun (19)</b>
2	– shows awareness of basic audience expectations through the use of simple narrative markers	Simple narrative markers may include: – simple titles – formulaic story opening: <i>Long, long ago ...</i> <i>Once a boy was walking when ...</i> – description of people or places	<b>The case!</b> (23) <b>BMX</b> (25) <b>Fier brething dragen</b> (27) <b>Living dead</b> (29) <b>A most unusual sight</b> (31)
3	– an internally consistent story that attempts to support the reader by developing a shared understanding of context	– contains sufficient information for the reader to follow the story fairly easily	<b>Woodern box</b> (33) <b>October 16, 1981</b> (37) <b>Zip</b> (39) <b>The shade whispered</b> (81) <b>Rugby league cup</b> (85)
4	– supports reader understanding – attempts to engage the reader	Narrative devices may include: – fantasy, humour, suspense – sub-genre styles (e.g. satire, boys' own, chick lit) – intertextual references	<b>Space Tour</b> (43) <b>The haunted house</b> (45) <b>Exhilerating</b> (47) <b>Gambat</b> (51)
5	– supports and engages the reader through deliberate choice of language and use of narrative devices	Language choices may: – control writer/reader relationship – reveal values and attitudes – establish narrator stance – subvert expectations – evoke an emotional response	<b>Tracy</b> (53) <b>Best friends</b> (57) <b>Lovely purple boots</b> (61)
6	– caters to the anticipated values and expectations of the reader – influences or affects the reader through precise and sustained choice of language and use of narrative devices	– encourage reflection – display irony	<b>The Water Tower</b> (65) <b>In the distance</b> (69) <b>Axe</b> (73) <b>The Deep Blue Nothing</b> (77)

## Text structure

**Skill focus:** The organisation of narrative features including orientation, complication and resolution into an appropriate and effective text structure.

	Category descriptor	Additional information	Sample scripts
0	<ul style="list-style-type: none"> <li>– no evidence of any structural components of a time-sequenced text</li> </ul>	<ul style="list-style-type: none"> <li>– symbols or drawings</li> <li>– inappropriate genre, e.g. a recipe</li> </ul>	<b>Role play writer (17)</b>
1	<ul style="list-style-type: none"> <li>– minimal evidence of narrative structure, e.g. a story beginning only or a 'middle' with no orientation</li> <li>– a recount of events with no complication</li> </ul>	<ul style="list-style-type: none"> <li>– <b>Complication</b> presents a problem to be solved, introduces tension and requires a response – it is more than just a sense of disappointment in the narrator. E.g. <i>not being allowed to go to the shop</i> is a disappointment. <i>Sneaking out of the window without mum seeing, falling and breaking a leg</i> is a complication.</li> </ul>	<b>Dungaun (19)</b> <b>The casel (23)</b> <b>BMX (25)</b> <b>Fier brething dragen (27)</b> <b>A most unusual sight (31)</b> <b>Zip (39)</b> <b>Space Tour (43)</b> <b>Rugby league cup (85)</b>
2	<ul style="list-style-type: none"> <li>– contains a beginning and a complication</li> <li>– where a resolution is present it is weak, contrived or 'tacked on' (e.g. <i>I woke up, I died, They lived happily ever after</i>)</li> </ul>	<ul style="list-style-type: none"> <li>– <b>Complications</b> should always be read in context. <i>I hit the ball over the fence and lost it</i> is a disappointment. However, if it has already been established that <i>the ball belonged to Joe and he would kill me if he knew I had taken it out of the trophy case</i>, then losing it is a complication.</li> </ul>	<b>Living dead (29)</b> <b>Woodern box (33)</b> <b>The shade whispered (81)</b>
3	<ul style="list-style-type: none"> <li>– contains orientation, complication and resolution (detailed longer text may resolve one complication and lead into a new complication or layer a new complication onto an existing one rather than conclude)</li> </ul>	Sophisticated structures, sequences and plot devices include: <ul style="list-style-type: none"> <li>– circular</li> <li>– parallel</li> <li>– foreshadowing/flashback</li> <li>– side or back story</li> <li>– story within a story</li> <li>– stream of consciousness</li> </ul>	<b>October 16, 1981 (37)</b> <b>The haunted house (45)</b> <b>Exhilarating (47)</b> <b>Gambat (51)</b> <b>Tracy (53)</b> <b>Best friends (57)</b> <b>Lovely purple boots (61)</b>
4	<ul style="list-style-type: none"> <li>– coherent, controlled and complete narrative, employing effective plot devices in an appropriate structure, and including an adequate ending</li> </ul>	<ul style="list-style-type: none"> <li>– red herring</li> <li>– epiphany</li> <li>– cliff-hanger</li> <li>– coda</li> <li>– twist</li> <li>– evaluation</li> <li>– reflection</li> <li>– moral</li> </ul>	<b>The Water Tower (65)</b> <b>In the distance (69)</b> <b>Axe (73)</b> <b>The Deep Blue Nothing (77)</b>

### 3

#### Ideas

**Skill focus:** The creation, selection and crafting of ideas for a narrative.

	Category descriptor	Additional information	Sample scripts
<b>0</b>	– no evidence or insufficient evidence	– symbols or drawings	<b>Role play writer (17)</b>
<b>1</b>	– ideas are very few and very simple – ideas appear unrelated		<b>Dungaun (19)</b> <b>The case! (23)</b> <b>BMX (25)</b>
<b>2</b>	– ideas are few, not elaborated or very predictable		<b>Fier brething dragen (27)</b> <b>Living dead (29)</b> <b>A most unusual sight (31)</b>
<b>3</b>	– ideas show some development or elaboration – all ideas relate coherently to a central storyline	– some ideas may contain unnecessary elaboration (waffle)	<b>Woodern box (33)</b> <b>October 16, 1981 (37)</b> <b>Zip (39)</b> <b>Space Tour (43)</b> <b>The haunted house (45)</b> <b>Exhilerating (47)</b> <b>Tracy (53)</b> <b>The shade whispered (81)</b> <b>Rugby league cup (85)</b>
<b>4</b>	– ideas are substantial and elaborated – ideas effectively contribute to a central storyline – the story contains a suggestion of an underlying theme		<b>Gambat (51)</b> <b>Best friends (57)</b>
<b>5</b>	– ideas are generated, selected and crafted to explore a recognisable theme – ideas are skilfully used in the service of the storyline	Ideas may include: – psychological subjects – unexpected topics – mature viewpoints – elements of popular culture – satirical perspectives – extended metaphor – traditional sub-genre subjects: <i>heroic quest</i> <i>whodunit</i> <i>good vs evil</i> <i>overcoming the odds</i>	<b>Lovely purple boots (61)</b> <b>The Water Tower (65)</b> <b>In the distance (69)</b> <b>Axe (73)</b> <b>The Deep Blue Nothing (77)</b>

## Character and setting

**Skill focus:** Character: The portrayal and development of character.

Setting: The development of a sense of place, time and atmosphere.

	Category descriptor	Additional information	Sample scripts
0	<ul style="list-style-type: none"> <li>- no evidence or insufficient evidence</li> </ul>	<ul style="list-style-type: none"> <li>- symbols or drawings</li> </ul>	<b>Role play writer (17)</b>
1	<ul style="list-style-type: none"> <li>- only names characters or gives their roles (e.g. <i>father, the teacher, my friend, dinosaur, we, Jim</i>)</li> </ul> <p><b>AND/OR</b></p> <ul style="list-style-type: none"> <li>- only names the setting: (e.g. <i>school, the place we were at</i>)</li> </ul> <p>Setting is vague or confused.</p>		<b>Dungaun (19)</b> <b>The casel (23)</b> <b>BMX (25)</b>
2	<ul style="list-style-type: none"> <li>- suggestion of characterisation through brief descriptions or speech or feelings, but lacks substance or continuity</li> </ul> <p><b>AND/OR</b></p> <ul style="list-style-type: none"> <li>- suggestion of setting through very brief and superficial descriptions of place and/or time</li> </ul>	<ul style="list-style-type: none"> <li>- basic dialogue or a few adjectives to describe a character or a place</li> </ul>	<b>Living dead (29)</b> <b>October 16, 1981 (37)</b> <b>Space Tour (43)</b> <b>Rugby league cup (85)</b>
3	<ul style="list-style-type: none"> <li>- characterisation emerges through descriptions, actions, speech or the attribution of thoughts and feelings to a character</li> </ul> <p><b>AND/OR</b></p> <ul style="list-style-type: none"> <li>- setting emerges through description of place, time and atmosphere</li> </ul>		<b>Fier breathing dragen (27)</b> <b>A most unusual sight (31)</b> <b>Woodern box (33)</b> <b>Zip (39)</b> <b>The haunted house (45)</b> <b>Exhilerating (47)</b> <b>Gambat (51)</b> <b>Tracy (53)</b> <b>The shade whispered (81)</b>
4	<ul style="list-style-type: none"> <li>- effective characterisation. Details are selected to create distinct characters.</li> </ul> <p><b>AND/OR</b></p> <ul style="list-style-type: none"> <li>- maintains a sense of setting throughout. Details are selected to create a sense of place and atmosphere.</li> </ul>	<ul style="list-style-type: none"> <li>- convincing dialogue, introspection and reactions to other characters</li> </ul>	<b>Best friends (57)</b> <b>Lovely purple boots (61)</b> <b>The Water Tower (65)</b> <b>In the distance (69)</b> <b>Axe (73)</b> <b>The Deep Blue Nothing (77)</b>

### NOTES

Characterisation and setting are essential components of effective narrative writing. The inclusion of the AND/OR category is necessary as different types of stories may focus on only one aspect.

Some stories may be character-driven (e.g. *Pippi Longstocking* by Astrid Lindgren) and the setting may be very sketchy or undeveloped. Other stories, which attempt to build atmosphere and suspense, may focus on setting the scene (e.g. the wild west genre) with little character detail. Many stories will have a balance of these two components.

# 5

## Vocabulary

**Skill focus:** The range and precision of language choices.

	Category descriptor	Additional information	Sample scripts
0	– symbols or drawings		<b>Role play writer (17)</b>
1	– very short script	few content words	<b>Dungaun (19)</b> <b>BMX (25)</b>
2	– mostly simple verbs, adverbs, adjectives or nouns  – may include two or three precise words	– single words: <i>quick, big, run, look, red, cold, water, great, man, soft, need, really, very, beautiful, scream, grab, huge, think</i> – simple groups: <i>My big warm bed; It looked like a bright green lizard; A five headed, six armed monster</i> – simple figurative language: <i>as big as a house</i>	<b>The case! (23)</b> <b>Living dead (29)</b> <b>A most unusual sight (31)</b> <b>Woodern box (33)</b> <b>October 16, 1981 (37)</b>
3	– precise words or word groups (may be verbs, adverbs, adjectives or nouns)	– single precise words: <i>hissed, yanked, clutched, absolutely, disgusted, exhilarating, rewarded, eventually</i> – effective simile: <i>... into a porthole-like trap; Burning coal shot out like tiny bullets</i> – metaphor: <i>... lungs screamed for air</i>	<b>Fier brething dragen (27)</b> <b>Zip (39)</b> <b>Space Tour (43)</b> <b>The haunted house (45)</b> <b>Exhilarating (47)</b> <b>The shade whispered (81)</b> <b>Rugby league cup (85)</b>
4	– sustained and consistent use of precise words and phrases that enhance the meaning or mood	– attitudinal: <i>simpered</i> – evaluative: <i>devout, aggressive, hard-done by</i> – technical: <i>resuscitated</i> – formal: <i>To what do I owe this honour?</i>	<b>Gambat (51)</b> <b>Tracy (53)</b> <b>Best friends (57)</b> <b>Lovely purple boots (61)</b> <b>The Water Tower (65)</b>
5	– a range of precise and effective words and phrases used in a natural and articulate manner  Language choice is well matched to genre.	– colloquial language for characters' speech: <i>Watcha doin?</i> – alliteration: <i>... completely captivating cat called Clarence</i> – effective personification <i>... the wind clutched at her hair</i>	<b>In the distance (69)</b> <b>Axe (73)</b> <b>The Deep Blue Nothing (77)</b>

### NOTES

Words are generally categorised into two classes:

**Content words** (or lexical items) describe objects and concepts. This class of words consists of nouns, verbs, adverbs, adjectives, noun groups, phrasal verbs and verb groups.

**Grammatical word classes** (or structural words) consist of prepositions, articles, conjunctions, pronouns and interjections.

## Cohesion

**Skill focus:** The control of multiple threads and relationships over the whole text, achieved through the use of referring words, substitutions, word associations and text connectives.

	Category descriptor	Additional information	Sample scripts
0	– symbols or drawings		<b>Role play writer (17)</b>
1	– links are missing or incorrect – short script  <b>Often confusing for the reader.</b>		<b>Dungaun (19)</b> <b>The casel (23)</b> <b>BMX (25)</b>
2	– some correct links between sentences (do not penalise for poor punctuation) – most referring words are accurate  <b>Reader may occasionally need to re-read and provide their own links to clarify meaning.</b>	– small selection of simple connectives and conjunctions used: <i>then, soon, and, but, or, then, suddenly, so, and then, when</i> , ordinal numbers, only temporal connectives  – often marked by cumbersome repetition of nouns or unreferenced pronouns	<b>Fier breathing dragen (27)</b> <b>Living dead (29)</b> <b>A most unusual sight (31)</b> <b>Woodern box (33)</b> <b>October 16, 1981 (37)</b> <b>Zip (39)</b>
3	– cohesive devices are used correctly to support reader understanding – accurate use of referring words  <b>Meaning is clear and text flows well in a sustained piece of writing.</b>	– other connectives used: <i>later, meanwhile, instead, in the middle of, earlier, just as, usually, although, even though, such as, because, finally</i>  – word association to avoid repetition, e.g. synonyms, antonyms, word sets	<b>Space Tour (43)</b> <b>The haunted house (45)</b> <b>Exhilerating (47)</b> <b>Gambat (51)</b> <b>Tracy (53)</b> <b>Best friends (57)</b> <b>The shade whispered (81)</b> <b>Rugby league cup (85)</b>
4	– a range of cohesive devices is used correctly and deliberately to enhance reading  <b>An extended, highly cohesive piece of writing showing continuity of ideas and tightly linked sections of text.</b>	– consistent use of word associations and substitutions that enhance reading	<b>Lovely purple boots (61)</b> <b>The Water Tower (65)</b> <b>In the distance (69)</b> <b>Axe (73)</b> <b>The Deep Blue Nothing (77)</b>

# 7

## Paragraphing

**Skill focus:** The segmenting of text into paragraphs that assists the reader to negotiate the narrative.

	Category descriptor	Additional information	Sample scripts
0	no use of paragraphing or only a beginning sense of paragraphing	<ul style="list-style-type: none"> <li>- script is a block of text</li> <li>- random breaks</li> <li>- new line for every sentence</li> <li>- new line for new speaker with no other paragraphing evident</li> </ul>	<p><b>Role play writer (17)</b>  <b>Dungaun (19)</b>  <b>The case! (23)</b>  <b>BMX (25)</b>  <b>Fier brething dragen (27)</b>  <b>Living dead (29)</b>  <b>A most unusual sight (31)</b>  <b>Woodern box (33)</b>  <b>Exhilerating (47)</b></p>
1	writing is organised into paragraphs that are mainly focused on a single idea or set of like ideas that assist the reader to digest chunks of text	<ul style="list-style-type: none"> <li>- indicates broad changes in time and scene</li> <li>- formulaic structures</li> </ul>	<p><b>October 16, 1981 (37)</b>  <b>Zip (39)</b>  <b>Space Tour (43)</b>  <b>The haunted house (45)</b>  <b>Gambat (51)</b>  <b>Tracy (53)</b>  <b>The shade whispered (81)</b>  <b>Rugby league cup (85)</b></p>
2	all paragraphs are focused on one idea or set of like ideas and enhance the narrative	<ul style="list-style-type: none"> <li>- deliberately structured to pace and direct the reader's attention</li> <li>- single sentence may be used as a dramatic or final comment or for emphasis</li> </ul>	<p><b>Best friends (57)</b>  <b>Lovely purple boots (61)</b>  <b>The Water Tower (65)</b>  <b>In the distance (69)</b>  <b>Axe (73)</b>  <b>The Deep Blue Nothing (77)</b></p>

### NOTES

For the purposes of the task, paragraphing can be indicated by any of the following conventions:

- indentation of a new line
- space between blocks of text
- student annotations, e.g. P for paragraph, tram lines, square brackets, asterisk
- available space on previous line left unused, followed by new line for paragraph beginning.

## Sentence structure

**Skill focus:** The production of grammatically correct, structurally sound and meaningful sentences.

	Category descriptor	Additional information	Sample scripts
0	- no evidence of sentences	- drawings, symbols, a list of words, text fragments	<b>Role play writer (17)</b>
1	- some correct formation of sentences <b>Some meaning can be construed.</b>	- in general, control is very limited	<b>Dungaun (19)</b> <b>The casel (23)</b> <b>BMX (25)</b>
2	- most simple sentences are correct <b>Meaning is predominantly clear.</b>	- correct sentences are predominantly simple	<b>Fier brething dragen (27)</b> <b>Living dead (29)</b> <b>A most unusual sight (31)</b>
3	- most simple and compound sentences correct - some complex sentences are correct <b>Meaning is predominantly clear.</b>	- experiments with complexity but with limited success	<b>Woodern box (33)</b> <b>October 16, 1981 (37)</b> <b>The shade whispered (81)</b> <b>Rugby league cup (85)</b>
4	- simple and compound sentences are correct - most complex sentences are correct <b>OR</b> All sentences correct but do not demonstrate variety <b>Meaning is clear.</b>	- greater control of complex sentences but lacks variety	<b>Zip (39)</b> <b>Space Tour (43)</b> <b>The haunted house (45)</b> <b>Exhilarating (47)</b> <b>Gambat (51)</b> <b>Tracy (53)</b>
5	- sentences correct (allow for occasional typo, e.g. a missing word) - demonstrates variety in length, structure and beginnings <b>Meaning is clear and sentences enhance meaning.</b>	VARIETY - clause types and patterns (verbless, adjectival, adverbial, multiple dependencies, non-finite) - dependent clause position  - length and rhythm - lexical density: increased with elaborating and extending phrases, or reduced to the essential	<b>Best friends (57)</b> <b>Lovely purple boots (61)</b> <b>Axe (73)</b>
6	- all sentences are correct Writing contains controlled and well-developed sentences that express precise meaning and are <b>consistently</b> effective.	- stylistically appropriate choices	<b>The Water Tower (65)</b> <b>In the distance (69)</b> <b>The Deep Blue Nothing (77)</b>

### NOTES

- Some students do not accurately identify their sentence boundaries with punctuation. In these cases it will be necessary to read the *intended* sentence. Run-on sentences should not be regarded as successful (overly repeated 'and', 'so' etc).
- Verb control and preposition errors should be considered as sentence errors.

# 9

## Punctuation

**Skill focus:** The use of correct and appropriate punctuation to aid reading of the text.

**NOTE:** ‘Splice’ commas used to join two sentences are INCORRECT. (E.g. *The dog ate my homework, it was hungry.*) Do not score these as correct sentence punctuation or comma use.

	Category descriptor	Additional information	Sample scripts
0	<ul style="list-style-type: none"> <li>– no evidence of correct punctuation</li> </ul>	<p><b>Sentence punctuation includes:</b></p> <ul style="list-style-type: none"> <li>– capital letters to begin sentences</li> <li>– full stops to end sentences</li> <li>– question marks to end sentences</li> <li>– exclamation marks to end sentences</li> </ul> <p><b>Noun capitalisation includes:</b></p> <ul style="list-style-type: none"> <li>– first names and surnames</li> <li>– titles: Mr, Mrs, Miss, Ms etc.</li> <li>– place names: Paris, Italy</li> <li>– institution names: Valley High</li> <li>– days of week, months of year</li> <li>– street names: Ord St</li> <li>– book and film titles</li> <li>– holidays: Easter, Ramadan</li> <li>– historic events: World War II</li> </ul>	<p><b>Role play writer (17)</b>  <b>Dungaun (19)</b>  <b>The casel (23)</b></p>
1	<ul style="list-style-type: none"> <li>– some correct use of capital letters to start sentences OR full stops to end sentences</li> </ul> <p><b>Punctuation is minimal and of little assistance to the reader.</b></p>		<p><b>BMX (25)</b>  <b>Fier brething dragen (27)</b></p>
2	<ul style="list-style-type: none"> <li>– some accurately punctuated sentences (beginning and end)</li> <li>– some noun capitalisation where applicable</li> </ul> <p><b>Provides some markers to assist reading.</b></p>		<p><b>Living dead (29)</b>  <b>Woodern box (33)</b>  <b>October 16, 1981 (37)</b>  <b>Gambat (51)</b>  <b>The shade whispered (81)</b>  <b>Rugby league cup (85)</b></p>
3	<ul style="list-style-type: none"> <li>– some correct punctuation across categories (sentences mostly correct with some other punctuation correct)</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>– accurate sentence punctuation with no stray capitals, nothing else used</li> </ul> <p><b>Provides adequate markers to assist reading.</b></p>	<p><b>Other punctuation includes:</b></p> <ul style="list-style-type: none"> <li>– apostrophes to mark contractions</li> <li>– commas in lists</li> <li>– commas to mark clauses/phrases</li> <li>– apostrophes to mark possession</li> <li>– correct hyphenation of compound words</li> <li>– quotation marks for direct speech</li> <li>– capital letters and commas used within quotation marks</li> <li>– new line for each speaker</li> <li>– quotation marks for text extracts and highlighted words</li> <li>– brackets and dashes</li> <li>– brackets to signal humorous asides</li> <li>– colons and semicolons</li> <li>– points of ellipsis</li> <li>– commas or semicolons to balance or create rhythm between clauses</li> </ul>	<p><b>A most unusual sight (31)</b>  <b>Space Tour (43)</b>  <b>The haunted house (45)</b></p>
4	<ul style="list-style-type: none"> <li>– all sentence punctuation correct</li> <li>– mostly correct use of other punctuation</li> </ul> <p><b>Provides accurate markers to enable smooth and efficient reading.</b></p>		<p><b>Zip (39)</b>  <b>Exhilarating (47)</b>  <b>Tracy (53)</b>  <b>Best friends (57)</b>  <b>The Water Tower (65)</b>  <b>Axe (73)</b></p>
5	<ul style="list-style-type: none"> <li>– writing contains accurate use of all applicable punctuation</li> </ul> <p><b>Provides precise markers to pace and control reading of the text.</b></p>		<p><b>Lovely purple boots (61)</b>  <b>In the distance (69)</b>  <b>The Deep Blue Nothing (77)</b></p>

**NOTES**

In first draft writing, allowances can be made for the very occasional omission of sentence punctuation at scores 4 and 5. ‘Mostly’ is approximately 80% but it is not intended that every use of punctuation is calculated rigorously.

## Spelling

**Skill focus:** The accuracy of spelling and the difficulty of the words used.

	Category descriptor	Additional information	Sample scripts
0	no conventional spelling	<b>Simple words</b> Short vowel single-syllable words ( <i>bad, fit, not</i> ) with: – consonant digraphs ( <i>shop, thin, much, chips</i> ) – consonant blends ( <i>drop, clap, grass, bring</i> ) – double final consonants ( <i>will, less</i> )	<b>Role play writer (17)</b>
1	few examples of conventional spelling	High frequency long vowel single-syllable words ( <i>name, park, good, school, feet, food</i> )	<b>Dungaun (19)</b>
2	correct spelling of – most simple words – some common words (errors evident in common words)	<b>Common words</b> Single-syllable words with: – two and three consonant blends ( <i>square, stretch, light, catch, crack, strung</i> ) – common long vowels ( <i>face, sail, eight, mean, nice, fly, coke, use, close, again</i> ) Multi-syllabic words with even stress patterns ( <i>middle, litter, plastic, between, hospital</i> ) Compound words ( <i>downstairs</i> ) Common homophones ( <i>there/their, write/right, hear/here, brake/break</i> ) Suffixes that don't change the base word ( <i>jumped, sadly, adults, happening</i> )	<b>The case! (23)</b> <b>BMX (25)</b> <b>Fier brething dragen (27)</b>
3	correct spelling of – most simple words – most common words (errors do not outnumber correct spellings)	Common words with silent letters ( <i>know, wrong, comb</i> ) Single-syllable words ending in <i>ould, ey, ough</i> Most rule-driven words: drop e, double letter, change y to i ( <i>having, spitting, heavier</i> )	<b>Living dead (29)</b> <b>A most unusual sight (31)</b> <b>Woodern box (33)</b> <b>The shade whispered (81)</b> <b>Rugby league cup (85)</b>
4	correct spelling of – simple words – most common words – some difficult words (errors do not outnumber correct spellings)	<b>Difficult words</b> Uneven stress patterns in multi-syllabic words ( <i>chocolate, mineral</i> ) Uncommon vowel patterns ( <i>drought, hygiene</i> ) Difficult subject-specific content words ( <i>obese</i> ) Difficult homophones ( <i>practice/practise</i> ) Suffixes where base word changes ( <i>generate/generation</i> ) Consonant alteration patterns ( <i>confident/confidence</i> ) Many three and four syllable words ( <i>invisible, organise, community</i> ) Multi-syllabic words ending in <i>tion, sion, ture, ible/able, ent/ant, ful</i>	<b>October 16, 1981 (37)</b> <b>Zip (39)</b> <b>The haunted house (45)</b> <b>Exhilarating (47)</b> <b>Tracy (53)</b> <b>Lovely purple boots (61)</b>
5	correct spelling of – simple words – most common words – at least 10 difficult words (errors do not outnumber correct spellings)	<b>Challenging words</b> Unusual consonant patterns ( <i>guarantee</i> ) Longer words with unstressed syllables ( <i>responsibility</i> ) Vowel alteration patterns ( <i>brief to brevity, propose to proposition</i> ) Foreign words Suffixes to words ending in e, c or l ( <i>physically, changeable, completely</i> )	<b>Space Tour (43)</b> <b>Gambat (51)</b> <b>Best friends (57)</b> <b>In the distance (69)</b>
6	correct spelling of – all words – at least 10 difficult words – some challenging words NOTE: As the work is first draft writing, allowances can be made for very occasional (1 or 2) minor errors, which should be disregarded when assigning this category.		<b>The Water Tower (65)</b> <b>Axe (73)</b> <b>The Deep Blue Nothing (77)</b>

## REFERENCES

- ABC News. (2010). My School site a victim of its own success: Gillard Retrieved 2 July, 2012, from <http://www.abc.net.au/news/2010-01-28/my-school-site-a-victim-of-its-own-success-gillard/312026>
- Abrams, L. M., Pedulla, J. J., & Madaus, G. F. (2003). Views from the classroom: Teachers' opinions of statewide testing programs. *Theory Into Practice*, 42(1), 18.
- Abuhamdeh, S., & Csikszentmihalyi, M. (2012). The importance of challenge for the enjoyment of intrinsically motivated, goal-directed activities. *Personality and Social Psychology Bulletin*, 38(3), 317-330. doi: 10.1177/0146167211427147
- ACARA – *see* Australian Curriculum, Assessment and Reporting Authority
- Acee, T. W., & Weinstein, C. E. (2010). Effects of a value-reappraisal intervention on statistics students' motivation and performance. *The Journal of Experimental Education*, 78(4), 487-512. doi: 10.1080/00220970903352753
- Acuña, S. R., García Rodicio, H., & Sánchez, E. (2011). Fostering active processing of instructional explanations of learners with high and low prior knowledge. *European Journal of Psychology of Education*, 26(4), 435-452. doi: 10.1007/s10212-010-0049-y
- Ai, X. (1999). Creativity and academic achievement: An investigation of gender differences. *Creativity Research Journal*, 12(4), 329-337. doi: 10.1207/s15326934crj1204\_11
- Ainley, M. (2012). Students' interest and engagement in classroom activities. In S. L. Christenson, A. L. Reschly & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 283-302). New York: Springer.
- Alexander, R. (2012). *International evidence, national policy and classroom practice: Questions of judgement, vision and trust*. Paper presented at the Third Van Leer International Conference on Education, Jerusalem. [http://www.primaryreview.org.uk/downloads/\\_publications/public\\_lectures/2012/20120524\\_Van\\_Leer\\_Alexander.pdf](http://www.primaryreview.org.uk/downloads/_publications/public_lectures/2012/20120524_Van_Leer_Alexander.pdf)
- Alexander, R., Armstrong, M., Flutter, J., Hargreaves, L., Harlen, W., Harrison, D., Hartley-Brewer, E., Kershner, R., MacBeath, J., Mayall, B., Northen, S., Pugh, G., Richards, C. & Utting, D. (2009). *Children, their world, their education: Final report and recommendations of the Cambridge primary review*. Milton Park, Abingdon, Oxon., UK: Routledge.
- Alivernini, F., & Lucidi, F. (2011). Relationship between social context, self-efficacy, motivation, academic achievement, and intention to drop out of

high school: A longitudinal study. *The Journal of Educational Research*, 104(4), 241-252. doi: 10.1080/00220671003728062

Aljughaiman, A., & Mowrer-Reynolds, E. (2005). Teachers' conceptions of creativity and creative students. [10.1002/j.2162-6057.2005.tb01247.x]. *The Journal of Creative Behavior*, 39(1), 17-34.

Allal, L. (1999). Impliquer l'apprenant dans les processus d'évaluation: Promesses et pièges de l'autoévaluation. In C. Depover & B. Noël (Eds.), *L'évaluation des compétences et des processus cognitifs: Modèles, pratiques et contextes* (pp. 35-56). Brussels: De Boeck.

Allal, L., & Lopez, L. M. (2005). Formative assessment of learning: A review of publications in French. In J. Looney (Ed.) *Formative assessment: Improving Learning in secondary classrooms*, (pp. 241-264). Paris: Organisation for Economic Co-Operation and Development.

ALP – *see* Australian Labor Party

Australian Curriculum, Assessment and Reporting Authority. (2010). My School Glossary Retrieved 3 July, 2012, from [http://www.acara.edu.au/myschool/myschool\\_glossary.html](http://www.acara.edu.au/myschool/myschool_glossary.html)

Australian Curriculum, Assessment and Reporting Authority. (2011a). About ICSEA Factsheet Retrieved 3 July, 2012, from [http://www.acara.edu.au/verve/\\_resources/About\\_\\_ICSEA.pdf](http://www.acara.edu.au/verve/_resources/About__ICSEA.pdf)

Australian Curriculum, Assessment and Reporting Authority. (2011b). About us Retrieved 2 July, 2012, from [http://www.acara.edu.au/about\\_us/about\\_us.html](http://www.acara.edu.au/about_us/about_us.html)

Australian Curriculum, Assessment and Reporting Authority. (2011c). My School Retrieved 19 October, 2011, from <http://www.myschool.edu.au>

Australian Curriculum, Assessment and Reporting Authority. (2011d). National Assessment Program: Language Conventions Retrieved 2 July, 2012, from [http://www.nap.edu.au/NAPLAN/About\\_each\\_domain/Language\\_Conventions/index.html](http://www.nap.edu.au/NAPLAN/About_each_domain/Language_Conventions/index.html)

Australian Curriculum, Assessment and Reporting Authority. (2011e). National Assessment Program: Numeracy Retrieved 2 July, 2012, from [http://www.nap.edu.au/NAPLAN/About\\_each\\_domain/Numeracy/index.html](http://www.nap.edu.au/NAPLAN/About_each_domain/Numeracy/index.html)

Australian Curriculum, Assessment and Reporting Authority. (2011f). National Assessment Program: Reading Retrieved 2 July, 2012, from [http://www.nap.edu.au/NAPLAN/About\\_each\\_domain/Reading/index.html](http://www.nap.edu.au/NAPLAN/About_each_domain/Reading/index.html)

- Australian Curriculum, Assessment and Reporting Authority. (2011g). National Assessment Program: Writing Retrieved 2 July, 2012, from [http://www.nap.edu.au/NAPLAN/About\\_each\\_domain/Writing/index.html](http://www.nap.edu.au/NAPLAN/About_each_domain/Writing/index.html)
- Australian Curriculum, Assessment and Reporting Authority. (2012a). Content Description: ACELA1479 Retrieved 4 June, 2013, from Australian Curriculum, Assessment and Reporting Authority <http://rdf.australiancurriculum.edu.au/elements/2012/08/7858d058-e6d6-47eb-a30f-9e4600a2a3b2>
- Australian Curriculum, Assessment and Reporting Authority. (2012b). *The shape of the Australian curriculum, Version 3*. Sydney: Author. Retrieved from [http://www.acara.edu.au/verve/\\_resources/The\\_Shape\\_of\\_the\\_Australian\\_Curriculum\\_V3.pdf](http://www.acara.edu.au/verve/_resources/The_Shape_of_the_Australian_Curriculum_V3.pdf).
- Australian Curriculum, Assessment and Reporting Authority. (2013a). *The Australian curriculum Version 4.1*. Sydney: Author.
- Australian Curriculum, Assessment and Reporting Authority. (2013b). My School Fact Sheet Retrieved 3 June, 2013, from [http://www.acara.edu.au/verve/\\_resources/Fact\\_Sheet\\_-\\_About\\_My\\_School.pdf](http://www.acara.edu.au/verve/_resources/Fact_Sheet_-_About_My_School.pdf)
- Australian Curriculum, Assessment and Reporting Authority. (2014). *National assessment program – literacy and numeracy: National protocols for test administration, 2014*. Sydney: Author. Retrieved from [http://www.nap.edu.au/verve/\\_resources/D14\\_658\\_\\_UPDATED\\_FINAL\\_2014\\_National\\_Protocols\\_for\\_Test\\_Administration.pdf](http://www.nap.edu.au/verve/_resources/D14_658__UPDATED_FINAL_2014_National_Protocols_for_Test_Administration.pdf).
- Australian Labor Party. (2007). *The Australian economy needs an education revolution: New Directions paper on the critical link between long term prosperity, productivity growth and human capital investment*. Canberra: Author. Retrieved from [PDF] [walabor.org.au/download/now/education\\_revolution.pdf](http://walabor.org.au/download/now/education_revolution.pdf).
- Amabile, T. M. (1982). The social psychology of creativity: A consensual assessment technique. *Journal of Personality and Social Psychology*, 43, 997-1013.
- Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology*, 45(2), 357-376. doi: 10.1037/0022-3514.45.2.357
- Amabile, T. M. (1985). Motivation and creativity: Effects of motivational orientation on creative writers. *Journal of Personality and Social Psychology*, 48(2), 393-399.
- Amabile, T. M. (1996). Creativity in context : Update to the social psychology of creativity Retrieved from <http://CSUAU.ebib.com/patron/FullRecord.aspx?p=729255>

- Anderman, E. M., & Patrick, H. (2012). Achievement goal theory, conceptualization of ability/intelligence, and classroom climate. In S. L. Christenson, A. L. Reschly & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 173-191). New York: Springer.
- Anderson, J. F. (1998). Transcribing with voice recognition software: A new tool for qualitative researchers. *Qualitative Health Research*, 8(5), 718-723. doi: 10.1177/104973239800800511
- Andreassen, C., & Waters, H. S. (1989). Organization during study: Relationships between metamemory, strategy use, and performance. *Journal of Educational Psychology*, 81(2), 190-195. doi: 10.1037/0022-0663.81.2.190
- Anmarkrud, Ø., & Bråten, I. (2009). Motivation for reading comprehension. *Learning and Individual Differences*, 19(2), 252-256. doi: <http://dx.doi.org/10.1016/j.lindif.2008.09.002>
- Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the student engagement instrument. *Journal of School Psychology*, 44(5), 427-445. doi: <http://dx.doi.org/10.1016/j.jsp.2006.04.002>
- Archer, S. L. (1982). The lower age boundaries of identity development. *Child Development*, 53(6), 1551-1556. doi: 10.2307/1130083
- Ary, D., Jacobs, L. C., Sorensen, C., & Walker, D. A. (2014). *Introduction to research in education* (9th ed.). Belmont, USA: Cengage Learning.
- Ayman-Nolley, S. (1992). Vygotsky's perspective on the development of imagination and creativity. *Creativity Research Journal*, 5(1), 77-85. doi: 10.1080/10400419209534424
- Azevedo, R., Johnson, A., Chauncey, A., & Graesser, A. (2011). Use of hypermedia to assess and convey self-regulated learning. In B. J. Zimmerman & D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 102-121). New York; London: Routledge.
- Bagnato, S. J., & Hsiang Yeh, H. (2006). High stakes testing with preschool children: Violation of professional standards for evidence based practice in early childhood intervention.. *KEDI Journal of Educational Policy*, 3(1), 23-43.
- Baird, J.-A. (1998). What's in a name? Experiments with blind marking in A-level examinations. *Educational Research*, 40(2), 191-202. doi: 10.1080/0013188980400207
- Bamberg, M., & Damrad-Frye, R. (1991). On the ability to provide evaluative comments: Further explorations of children's narrative competencies. *Journal of Child Language*, 18(03), 689-710. doi: 10.1017/S0305000900011314

- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, N.J.: Prentice Hall.
- Bandura, A. (1986). *Social foundations of thought and action : A social cognitive theory*. Englewood Cliffs, N.J.: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman and Company.
- Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science*, 9(3), 75-78. doi: 10.2307/20182630
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), 1.
- Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological Science*, 1(2), 164-180. doi: 10.2307/40212163
- Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management*, 38(1), 9-44. doi: 10.1177/0149206311410606
- Bandura, A., & Schunk, D. H. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of Personality and Social Psychology*, 41(3), 586-598. doi: 10.1037/0022-3514.41.3.586
- Barbot, B., Tan, M., Randi, J., Santa-Donato, G., & Grigorenko, E. L. (2012). Essential skills for creative writing: Integrating multiple domain-specific perspectives. *Thinking Skills and Creativity*, 7(3), 209-223. doi: <http://dx.doi.org/10.1016/j.tsc.2012.04.006>
- Baumgartner, T. A., & Strong, C. H. (1998). *Conducting and reading research in health and human performance* (2nd ed.). Boston: McGraw Hill.
- Beghetto, R. A. (2005). Does assessment kill student creativity? *The Educational Forum*, 69(3), 254-263. doi: 10.1080/00131720508984694
- Beghetto, R. A. (2006). Creative self-efficacy: Correlates in middle and secondary students. *Creativity Research Journal*, 18(4), 447-457. doi: 10.1207/s15326934crj1804\_4
- Beghetto, R. A. (2007). Does creativity have a place in classroom discussions? Prospective teachers' response preferences. *Thinking Skills and Creativity*, 2(1), 1-9. doi: 10.1016/j.tsc.2006.09.002
- Beghetto, R. A. (2010). Creativity in the classroom. In J. C. Kaufman & R. J. Sternberg (Eds.), *The Cambridge handbook of creativity* (pp. 447-467). Cambridge; New York: Cambridge University Press.
- Beghetto, R. A., & Kaufman, J. C. (2007). Toward a broader conception of creativity: A case for 'mini-c' creativity. *Psychology of Aesthetics, Creativity, and the Arts*, 1(2), 73-79. doi: 10.1037/1931-3896.1.2.73

- Beishuizen, J., & Steffens, K. (2011). A conceptual framework for research on self-regulated learning. In R. Carneiro, P. Lefrere, K. Steffens & J. Underwood (Eds.), *Self-regulated learning in technology enhanced learning environments: A European perspective* (pp. 3-19). Rotterdam: Sense.
- Bembenutty, H. (2011). Academic delay of gratification and academic achievement. In H. Bembenutty (Ed.), *Self-regulated learning* (pp. 55-65). San Francisco: Jossey-Bass.
- Bembenutty, H., Cleary, T. J., & Kitsantas, A. (2013). Preface. In H. Bembenutty, T. J. Cleary & A. Kitsantas (Eds.), *Applications of self-regulated learning across diverse disciplines: A tribute to Barry J. Zimmerman* (pp. xi-xv). Charlotte, USA: Information Age Publishing Inc.
- Berliner, D. C. (2011). Rational responses to high stakes testing: The case of curriculum narrowing and the harm that follows. *Cambridge Journal of Education*, 41(3), 287-302. doi: 10.1080/0305764x.2011.607151
- Berninger, V. W., Vaughan, K., Abbott, R. D., Brooks, A., Abbott, S. P., Rogan, L., Reed, E., & Graham, S. (1998). Early intervention for spelling problems: Teaching functional spelling units of varying size with a multiple-connections framework. *Journal of Educational Psychology*, 90(4), 587-605. doi: 10.1037/0022-0663.90.4.587
- Bird, L. (2009). *Developing self-regulated learning skills in young students*. (PhD thesis, Deakin University, 2009). Retrieved from: <http://dro.deakin.edu.au/eserv/DU:30027481/bird-developingself-2009.pdf>
- Bjørnebekk, G., Diseth, Å., & Ulriksen, R. (2013). Achievement motives, self-efficacy, achievement goals and academic achievement at multiple stages of education: A longitudinal analysis. *Psychological Reports*, 112(3), 771-787. doi: 10.2466/14.09.pr0.112.3.771-787
- Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2003). *Assessment for learning: Putting it into practice*. Maidenhead, UK: Open University Press.
- Black, P., McCormick, R., James, M., & Pedder, D. (2006). Learning how to learn and assessment for learning: A theoretical inquiry. *Research Papers in Education*, 21(2), 119-132. doi: 10.1080/02671520600615612
- Black, P., & Wiliam, D. (1998a). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice*, 5(1), 7-74.
- Black, P., & Wiliam, D. (1998b). Inside the black box: Raising standards through classroom assessment. *The Phi Delta Kappan*, 80(2), 139-148. doi: 10.2307/20439383
- Bloom, B. S. (1984). *Taxonomy of educational objectives*. Boston, MA: Allyn and Bacon.

- BOS – *see* Board of Studies, NSW
- Board of Studies, NSW. (2012). *Advice on assessment*. Board of Studies, NSW  
Retrieved from  
[http://syllabus.bos.nsw.edu.au/assets/global/files/advice\\_on\\_assessment\\_guide\\_web.pdf](http://syllabus.bos.nsw.edu.au/assets/global/files/advice_on_assessment_guide_web.pdf).
- Boekaerts, M., & Corno, L. (2005). Self-regulation in the classroom: A perspective on assessment and intervention. *Applied Psychology: An International Review*, 54(2), 199-231. doi: 10.1111/j.1464-0597.2005.00205.x
- Bogdan, R., & Taylor, S. J. (1975). *Introduction to qualitative research methods: A phenomenological approach to the social sciences*. New York: Wiley.
- Boud, D. (2015). Feedback: Ensuring that it leads to enhanced learning. *Clinical Teacher*, 12(1), 3-7. doi: 10.1111/tct.12345
- Boud, D., Lawson, R., & Thompson, D. G. (2013). Does student engagement in self-assessment calibrate their judgement over time? *Assessment & Evaluation in Higher Education*, 38(8), 941-956. doi: 10.1080/02602938.2013.769198
- Boud, D., & Molloy, E. (2012). Rethinking models of feedback for learning: The challenge of design. *Assessment & Evaluation in Higher Education*, 38(6), 698-712. doi: 10.1080/02602938.2012.691462
- Bray, M. (2007). *The shadow education system: Private tutoring and its implications for planners* (2nd ed.). Paris: UNESCO.
- Brennan, M. (2011). National curriculum: A political-educational tangle. *Australian Journal of Education*, 55(3), 259-280.
- Broadfoot, P. (1997). Assessment: The English panacea? *Oxford Review of Education*, 23(3), 401-405. doi: 10.1080/0305498970230309
- Broadfoot, P. (2002). Beware the consequences of assessment! *Assessment in Education: Principles, Policy & Practice*, 9(3), 285-288. doi: 10.1080/0969594022000027645
- Broadfoot, P. (2007). *An introduction to assessment*. London; New York: Continuum International Publishing Group Ltd.
- Broadfoot, P., & Black, P. (2004). Redefining assessment? The first ten years of Assessment in education. *Assessment in Education*, 11(1), 22.
- Brookfield, S. (1985). Self-directed learning: A critical review of research. [10.1002/ace.36719852503]. *New Directions for Adult and Continuing Education*, 1985(25), 5-16.
- Brookhart, S. M. (2008). *How to give effective feedback to your students*. Alexandria, Virginia: Association for Supervision and Curriculum Development.

- Brookhart, S. M. (2012). Preventing feedback fizzle. *Educational Leadership*, 70(1), 24-29.
- Brooks, J. G. (1990). Teachers and students: Constructivists forging new connections. *Educational Leadership*, 47(5), 68.
- Brown, G. T. L., & Harris, L. R. (2013). Student self-assessment. In J. H. McMillan (Ed.), *SAGE handbook of research on classroom assessment*. (pp. 367-393). Thousand Oaks: SAGE Publications. Retrieved from <http://CSUAU.ebib.com/patron/FullRecord.aspx?p=1207749>.
- Brown, G. T. L., & Harris, L. R. (2014). The future of self-assessment in classroom practice: Reframing self-assessment as a core competency. *Frontline Learning Research*, 2(1), 22-30. doi: <http://dx.doi.org/10.14786/flr.v2i1.24>
- Brown, G. T. L., Harris, L. R., & Harnett, J. (2012). Teacher beliefs about feedback within an assessment for learning environment: Endorsement of improved learning over student well-being. *Teaching and Teacher Education*, 28(7), 968-978. doi: <http://dx.doi.org/10.1016/j.tate.2012.05.003>
- Brown, G. T. L., Kennedy, K. J., Fok, P. K., Chan, J. K. S., & Yu, W. M. (2009). Assessment for student improvement: Understanding Hong Kong teachers' conceptions and practices of assessment. *Assessment in Education: Principles, Policy & Practice*, 16(3), 347-363. doi: 10.1080/09695940903319737
- Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6(1), 97-113. doi: 10.1177/1468794106058877
- Bryman, A. (2012). *Social research methods* (4th ed.). Oxford; New York: Oxford University Press.
- Burton, D., & Bartlett, S. (2005). *Practitioner research for teachers*. London: SAGE Publications.
- Butler, D. L. (2011). Investigating self-regulated learning using in-depth case studies. In B. J. Zimmerman & D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 346-360). New York; London: Routledge.
- Butler, R. (2006). Help seeking in academic settings : Goals, groups, and contexts. In S. A. Karabenick & R. S. Newman (Eds.), *Help seeking in academic settings: Goals, groups, and contexts* (e-book published 2013) (pp. 15-44). Hoboken: Taylor and Francis. Retrieved from <http://CSUAU.ebib.com/patron/FullRecord.aspx?p=331697>.
- Byun, J., & Valentine, T. (2009). The Republic of Korea's lifelong learning city project: An empirical re-conceptualization of learner satisfaction and societal outcomes. *KEDI Journal of Educational Policy*, 6(2), 161-181.

- Campbell, D. T. (1986). Relabeling internal and external validity for applied social scientists. In W. M. K. Trochim (Ed.), *Advances in quasi-experimental design and analysis* (pp. 67-78). San Francisco: Jossey-Bass.
- Carless, D. (1997). Managing systemic curriculum change: A critical analysis of Hong Kong's target-oriented curriculum initiative. *International Review of Education*, 43(4), 349-366.
- Carless, D. (2005). Prospects for the implementation of assessment for learning. *Assessment in Education: Principles, Policy & Practice*, 12(1), 39-54. doi: 10.1080/0969594042000333904
- Carless, D. (2006). Differing perceptions in the feedback process. *Studies in Higher Education*, 31(2), 219-233. doi: 10.1080/03075070600572132
- Carless, D. (2007a). Conceptualizing pre-emptive formative assessment. *Assessment in Education: Principles, Policy & Practice*, 14(2), 171-184. doi: 10.1080/09695940701478412
- Carless, D. (2007b). Learning-oriented assessment: Conceptual bases and practical implications. *Innovations in Education & Teaching International*, 44(1), 57-66. doi: 10.1080/14703290601081332
- Carless, D. (2013). Sustainable feedback and the development of student self-evaluative capacities. In Merry, S., Price, M., Carless, D. & Taras, M. (Eds.), *Reconceptualising feedback in higher education: developing dialogue with students*. London: Routledge.
- Carless, D. (2014). Exploring learning-oriented assessment processes. *Higher Education*, DOI 10.1007/s10734-014-9816-z
- Carr, M. (2008). Can assessment unlock and open the doors to resourcefulness and agency? In S. Swaffield (Ed.), *Unlocking assessment: Understanding for reflection and application* (pp. 36-54). Abingdon: Routledge.
- Carver, C. S., & Scheier, M. F. (2000). On the structure of behavioural self-regulation. In M. Boerkaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 42-84). Burlington, USA; San Diego, USA; London: Elsevier Academic Press.
- Cellar, D., Stuhlmacher, A., Young, S., Fisher, D., Adair, C., Haynes, S., Twichell, E., Arnold, K., Royer, K., Denning, B. & Devon, R. (2011). Trait goal orientation, self-regulation, and performance: A meta-analysis. *Journal of Business & Psychology*, 26(4), 467-483. doi: 10.1007/s10869-010-9201-6
- Chan, D. W., & Chan, L.-K. (1999). Implicit theories of creativity: Teachers' perception of student characteristics in Hong Kong. *Creativity Research Journal*, 12(3), 185.

- Chandler, R. C. (1995). Practical considerations in the use of simultaneous inference for multiple tests. *Animal Behaviour*, 49(2), 524-527. doi: 10.1006/anbe.1995.0069
- Chang, H.-J. (1998). Korea: The misunderstood crisis. *World Development*, 26(8), 1555-1561. doi: 10.1016/s0305-750x(98)00057-6
- Chatzistamatiou, M., Dermitzaki, I., Efklides, A., & Leondari, A. (2013). Motivational and affective determinants of self-regulatory strategy use in elementary school mathematics. *Educational Psychology*, 1-16. doi: 10.1080/01443410.2013.822960
- Cheng, L. (1997). How does washback influence teaching? Implications for Hong Kong. *Language and Education*, 11(1), 38-54.
- Cheon, S. H., & Reeve, J. (2013). Do the benefits from autonomy-supportive PE teacher training programs endure?: A one-year follow-up investigation. *Psychology of Sport and Exercise*, 14(4), 508-518. doi: <http://dx.doi.org/10.1016/j.psychsport.2013.02.002>
- Cheon, S. H., & Reeve, J. (2014). A classroom-based intervention to help teachers decrease students' amotivation. *Contemporary Educational Psychology*. doi: <http://dx.doi.org/10.1016/j.cedpsych.2014.06.004>
- Clark, A. M. (1998). The qualitative-quantitative debate: Moving from positivism and confrontation to post-positivism and reconciliation. [10.1046/j.1365-2648.1998.00651.x]. *Journal of Advanced Nursing*, 27(6), 1242-1249.
- Claxton, G. (1995). What kind of learning does self-assessment drive? Developing a 'nose' for quality: Comments of Klenowski. *Assessment in Education: Principles, Policy & Practice*, 2(3), 339-344.
- Cleary, T. J., & Zimmerman, B. J. (2004). Self-regulation empowerment program: A school-based program to enhance self-regulated and self-motivated cycles of student learning. *Psychology in the Schools*, 41(5), 537-550. doi: 10.1002/pits.10177
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- Cohen, J. D. (2001). Cognitive control (executive functions): Role of prefrontal cortex. In N. J. S. B. Baltes (Ed.), *International encyclopedia of the social & behavioral sciences* (pp. 2089-2094). Oxford: Pergamon.
- Cole, M., & Scribner, S. (1978). Introduction to mind in society: The development of higher psychological processes. *Mind in society: The development of higher psychological processes* (L. S. Vygotsky). Cambridge, Massachusetts, USA; London: Harvard University Press.

- Commonwealth of Australia. (2012). *Better schools: National plan for school improvement*. Canberra: Author. Retrieved from [http://betterschools.gov.au/sites/default/files/docs/b12\\_0374\\_sch\\_new\\_school\\_funding\\_branding\\_summary\\_factsheet\\_07.pdf](http://betterschools.gov.au/sites/default/files/docs/b12_0374_sch_new_school_funding_branding_summary_factsheet_07.pdf).
- Conti, R., Collins, M. A., & Picariello, M. L. (2001). The impact of competition on intrinsic motivation and creativity: Considering gender, gender segregation and gender role orientation. *Personality and Individual Differences, 31*(8), 1273-1289. doi: 10.1016/s0191-8869(00)00217-8
- Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation: Design & analysis issues for field settings*. Boston: Houghton Mifflin.
- Covington, M. V. (2005). Foreword. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation*. New York: Guilford Press.
- Cowie, B., & Bell, B. (1999). A model of formative assessment in science education. *Assessment in Education: Principles, Policy & Practice, 6*(1), 101-116. doi: 10.1080/09695949993026
- Cox, R., Lee, J., Varley, R., & Morris, J. (2004-2006). Vicarious learning and case-based teaching of clinical reasoning skills. Retrieved 1 July, 2014, from <http://www.tlrp.org/proj/phase111/cox.htm>
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, California; London; New Delhi; Singapore: Sage.
- Creswell, J. W., & Miller, G. A. (1997). Research methodologies and the doctoral process. *New Directions for Higher Education, 1997*(99), 33-46. doi: 10.1002/he.9903
- Creswell, J. W., & Plano Clark, V. (2011). *Designing and conducting mixed methods research* (2nd ed.). Los Angeles; London; New Delhi; Singapore: SAGE.
- Crooks, T. J. (1988). The impact of classroom evaluation practices on students. *Review of Educational Research, 58*(4), 438-481. doi: 10.2307/1170281
- Crooks, T. J. (2011). Assessment for learning in the accountability era: New Zealand. *Studies In Educational Evaluation, 37*(1), 71-77. doi: <http://dx.doi.org/10.1016/j.stueduc.2011.03.002>
- Cross, D. R., & Paris, S. G. (1988). Developmental and instructional analyses of children's metacognition and reading comprehension. *Journal of Educational Psychology, 80*(2), 131-142. doi: 10.1037/0022-0663.80.2.131
- Csikszentmihalyi, M., Abuhamdeh, S., & Nakamura, J. (2005). Flow. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 598-609). New York: Guilford Press.

- Curriculum Corporation. (2005a). *Statements of learning for English*. Carlton South, Victoria: Author. Retrieved from [http://www.mceetya.edu.au/verve/\\_resources/SOL\\_English\\_Copyright\\_update2008\\_file.pdf](http://www.mceetya.edu.au/verve/_resources/SOL_English_Copyright_update2008_file.pdf).
- Curriculum Corporation (2005b). *Statements of learning for mathematics*. Carlton South, Victoria: Author. Retrieved from [http://www.mceetya.edu.au/verve/\\_resources/SOL\\_Maths\\_Copyright\\_update2008.pdf](http://www.mceetya.edu.au/verve/_resources/SOL_Maths_Copyright_update2008.pdf).
- Daniels, H. (2001). *Vygotsky and pedagogy*. London; New York: Routledge.
- Daniels, H. (2007). Pedagogy. In H. Daniels, M. Cole & J. V. Wertsch (Eds.), *The Cambridge companion to Vygotsky* (pp. 307-331). Cambridge: Cambridge University Press.
- Dann, R. (2014). Assessment as learning: Blurring the boundaries of assessment and learning for theory, policy and practice. *Assessment in Education: Principles, Policy & Practice*, 21(2), 149-166. doi: 10.1080/0969594x.2014.898128
- Dargusch, J. (2012). *Formative assessment as contextualised practice: Insider accounts*. Doctor of Education, Griffith University. Retrieved from: [https://www.120.secure.griffith.edu.au/rch/file/54d68b3a-1b37-0998-85dd-78cba84d71bb/1/Dargusch,J\\_2012\\_02Thesis.pdf](https://www.120.secure.griffith.edu.au/rch/file/54d68b3a-1b37-0998-85dd-78cba84d71bb/1/Dargusch,J_2012_02Thesis.pdf)
- Darling-Hammond, L. (2005). Policy and change: Getting beyond bureaucracy. In A. Hargreaves (Ed.), *Extending educational change : International handbook of educational change* (pp. 362-387). Dordrecht: Springer. Retrieved from <http://CSUAU.ebib.com/patron/FullRecord.aspx?p=336702>.
- Darling-Hammond, L. (2007). Race, inequality and educational accountability: The irony of 'no child left behind'. *Race, Ethnicity & Education*, 10(3), 245-260. doi: 10.1080/13613320701503207
- Darling-Hammond, L. (2010). *The flat world and education: How America's commitment to equity will determine our future*. New York: Teachers College Press.
- Davidson, C. R. (2009). Transcription: Imperatives for qualitative research. *International Journal of Qualitative Methods*, 8(2), 35-52.
- Davies, A., & Hill, M. (2009). *Making classroom assessment work: New Zealand edition*. Wellington: NZCER Press.
- Dawkins, J. (1995). Teaching punctuation as a rhetorical tool. *College Composition and Communication*, 46(4), 533-548. doi: 10.2307/358327
- Dawson, V. L., D'Andrea, T., Affinito, R., & Westby, E. L. (1999). Predicting creative behavior: A reexamination of the divergence between traditional and

- teacher-defined concepts of creativity. *Creativity Research Journal*, 12(1), 66.
- Deakin Crick, R., & Goldspink, C. (2014). Learner dispositions, self-theories and student engagement. *British Journal of Educational Studies*, 62(1), 19-35. doi: 10.1080/00071005.2014.904038
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determinism in human behaviour*. New York: Plenum Press.
- Deci, E. L., & Ryan, R. M. (Eds.) (2002). *Handbook of self-determination research*. Rochester, New York: University Rochester Press
- Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist*, 26(3-4), 325-346. doi: 10.1080/00461520.1991.9653137
- DEEWR – *see* Department of Education, Employment and Workplace Relations
- de Mesa, A. (2005). Marketing and tweens. Retrieved 9 October, 2012 from *Businessweek* website: <http://www.businessweek.com/stories/2005-10-11/marketing-and-tweens>
- Department of Education and Early Childhood Development. (2013). *Assessment advice: Purposes of assessment*. Retrieved 26 November, 2014, from <http://www.education.vic.gov.au/school/teachers/support/Pages/advice.aspx> - purpose
- Department of Education, Employment and Workplace Relations. (2012). *National plan for school improvement forum - 2 November, 2012*. Canberra: Commonwealth of Australia. Retrieved from [http://theatre.deewr.gov.au/betterschools/forum011112/documents/20121101\\_1930\\_DEEWR\\_Conference.pdf](http://theatre.deewr.gov.au/betterschools/forum011112/documents/20121101_1930_DEEWR_Conference.pdf).
- Dewey, J. (1910/1997). *How we think*. Mineola, New York: Dover Publications.
- Dewey, J. (1915/2010). *The school and society and the child and the curriculum*. Stilwell, KS, USA: Digireads.com Publishing.
- Dewey, J. (1916/2005). *Democracy and education*. Stilwell, KS., USA: Digireads.com Publishing.
- Dignath, C., Buettner, G., & Langfeldt, H.-P. (2008). How can primary school students learn self-regulated learning strategies most effectively?: A meta-analysis on self-regulation training programmes. *Educational Research Review*, 3(2), 101-129. doi: <http://dx.doi.org/10.1016/j.edurev.2008.02.003>
- Dignath, C., & Büttner, G. (2008). Components of fostering self-regulated learning among students. A meta-analysis on intervention studies at primary and

- secondary school level. *Metacognition Learning*, 3(3), 231-264. doi: 10.1007/s11409-008-9029-x
- Durkin, P., Ferguson, V., & Sperring, G. (2001). *Text types for primary schools: Book 4*. Melbourne: Oxford.
- Dweck, C. S. (2000). *Self-theories: Their role in motivation, personality, and development*. Philadelphia: Psychology Press.
- Dweck, C. S., & Master, A. (2008). Self-theories motivate self-regulated learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (2012 ed., pp. 31-51). New York: Routledge, Taylor & Francis Group.
- Earl, L. M. (2003). *Assessment as learning: Using classroom assessment to maximize student learning*. Thousand Oaks; London; New Delhi: Corwin Press.
- Earl, L. M. (2006). Assessment - A powerful lever for learning. *Brock Education*, 16(1), 1.
- Earl, L. M. (2011). A response from Canada to TLRP's ten principles for effective pedagogy. *Research Papers in Education*, 26(3), 381-389. doi: 10.1080/02671522.2011.595549
- Earl, L. M. (2013). *Assessment as learning: Using classroom assessment to maximize student learning* (2nd ed.). Thousand Oaks; London; New Delhi: Corwin Press.
- Earl, L. M., & Katz, S. (2006). *Rethinking classroom assessment with purpose in mind: Assessment for learning, assessment as learning, assessment of learning*. Winnipeg, Manitoba: Western and Northern Canadian Protocol for Collaboration in Education.
- Earl, L. M., & Katz, S. (2008). Getting to the core of learning: Using assessment for self-monitoring and self-regulation. In S. Swaffield (Ed.), *Unlocking assessment: Understanding for reflection and application* (pp. 90-104). Abingdon: Routledge.
- Eather, J. (2006). Writing fun Retrieved 15 August 2011, from <http://www.writingfun.com/>
- Eccles, J. S. (2005). Subjective task value and the Eccles et. al. model of achievement-related choices. In A. J. Elliott & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 105-121). New York: Guilford Press.
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53, 109-132.

- Eccles, J. S., Wigfield, A., & Schiefele, U. (1998). Motivation to succeed. In N. Eisenberg (Ed.), *Handbook of child psychology* (5th ed., Vol. 3, pp. 1017-1095). New York: Wiley.
- Economist. (2011, 17 December 2011). Exams in Korea: The one-shot society. *The Economist*. Retrieved 17 December, 2011 from:  
<http://www.economist.com/node/21541713>
- Education Commission. (2000). *Learning for life, learning through life: Reform proposals for the education system in Hong Kong*. Hong Kong: Author. Retrieved from <http://www.e-c.edu.hk/eng/reform/annex/Edu-reform-eng.pdf>.
- Edwards, A. (2005). Let's get beyond community and practice: The many meanings of learning by participating. *The Curriculum Journal*, 16(1), 49-65. doi: 10.1080/0958517042000336809
- Elliot, A. J., & Dweck, C. S. (2005). Competence and motivation. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 3-15). New York: Guilford Press.
- Elwood, J. (2006). Formative assessment: Possibilities, boundaries and limitations. *Assessment in Education: Principles, Policy & Practice*, 13(2), 215-232. doi: 10.1080/09695940600708653
- Erikson, E. H. (1950). *Childhood and society*. New York: W. W. Norton.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: W. W. Norton.
- Evans, M. (2013). Reliability and validity in qualitative research by teacher researchers. In E. Wilson (Ed.), *School-based research: A guide for education students* (2nd ed., pp. 143-156). London: Sage.
- Feltz, D. L., Chow, G. M., & Hepler, T. J. (2008). Path analysis of self-efficacy and diving performance revisited. *Journal of Sport & Exercise Psychology*, 30(3), 401-411.
- Fernandes, M., & Fontana, D. (1996). Changes in control beliefs in Portuguese primary school pupils as a consequence of the employment of self-assessment strategies. *British Journal of Educational Psychology*, 66(3), 301-313. doi: DOI: 10.1111/j.2044-8279.1996.tb01199.x
- Fidalgo, R., Torrance, M., & García, J.-N. (2008). The long-term effects of strategy-focussed writing instruction for grade six students. *Contemporary Educational Psychology*, 33(4), 672-693. doi: <http://dx.doi.org/10.1016/j.cedpsych.2007.09.001>
- Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research*, 59(2), 117.

- Finnish National Board of Education. (2004). *Grunderna för läroplanen för den grundläggande utbildningen 2004 [Curriculum base for the founding education, 2004]*. Helsinki: Education Council. Retrieved from <http://www02.oph.fi/svenska/ops/grundskola/LPgrundl.pdf>.
- Firestone, W. A., Mayrowetz, D., & Fairman, J. (1998). Performance-based assessment and instructional change: The effects of testing in Maine and Maryland. *Educational Evaluation and Policy Analysis*, 20(2), 95-113.
- Fletcher, A., & Shaw, G. (2011). How voice-recognition software presents a useful transcription tool for qualitative and mixed methods researchers. *International Journal of Multiple Research Approaches*, 5(2), 200-206. doi: 10.5172/mra.2011.5.2.200
- Flower, L. (1989). Cognition, context, and theory building. *College Composition and Communication*, 40(3), 282-311. doi: 10.2307/357775
- Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32(4), 365-387.
- Foos, P. W., Mora, J. J., & Tkacz, S. (1994). Student study techniques and the generation effect. *Journal of Educational Psychology*, 86(4), 567-576. doi: 10.1037/0022-0663.86.4.567
- Fox, R. (1991). Developing awareness of mind reflected in children's narrative writing. *British Journal of Developmental Psychology*, 9(2), 281-298.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59-109. doi: doi:10.3102/00346543074001059
- Gajdamaschko, N. (2005). Vygotsky on imagination: Why an understanding of the imagination is an important issue for schoolteachers. *Teaching Education*, 16(1), 13-22. doi: 10.1080/1047621052000341581
- Gamble, A. (2010). After the crash. *Journal of Education Policy*, 25(6), 703-708. doi: 10.1080/02680939.2010.514065
- Gillard, J. (2008). 2006 National benchmark results. Canberra: Ministers' Media Centre. Retrieved 1 February, 2008 from: <http://ministers.deewr.gov.au/gillard/2006-national-benchmark-results>
- Gipps, C. (1996). Assessment for learning. In A. Little & A. Wolf (Eds.), *Assessment in transition: Learning, monitoring and selection in international perspective* (pp. 251-262). Kidlington, Oxford, UK; Tarrytown, New York, U.S.A.; Minato-ku, Tokyo, Japan: Pergamon.
- Glasson, T. (2009). *Improving student achievement: A practical guide to assessment for learning*. Carlton South, Victoria: Curriculum Corporation.

- Glogger, I., Schwonke, R., Holzäpfel, L., Nückles, M., & Renkl, A. (2012). Learning strategies assessed by journal writing: Prediction of learning outcomes by quantity, quality, and combinations of learning strategies. *Journal of Educational Psychology, 104*(2), 452-468. doi: 10.1037/a0026683
- Goetz, T., Cronjaeger, H., Frenzel, A. C., Lüdtke, O., & Hall, N. C. (2010). Academic self-concept and emotion relations: Domain specificity and age effects. *Contemporary Educational Psychology, 35*(1), 44-58. doi: <http://dx.doi.org/10.1016/j.cedpsych.2009.10.001>
- Goetz, T., Frenzel, A., Pekrun, R., Hall, N. C., & Lüdtke, O. (2007). Between- and within-domain relations of students' academic emotions. *Journal of Educational Psychology, 99*(4), 715-733. doi: 10.1037/0022-0663.99.4.715
- Goetz, T., Hall, N. C., Frenzel, A. C., & Pekrun, R. (2006). A hierarchical conceptualization of enjoyment in students. *Learning and Instruction, 16*(4), 323-338. doi: <http://dx.doi.org/10.1016/j.learninstruc.2006.07.004>
- Goodson, I. F. (2010). Times of educational change: Towards an understanding of patterns of historical and cultural refraction. *Journal of Education Policy, 25*(6), 767-775. doi: 10.1080/02680939.2010.508179
- Graham, S. (2000). Should the natural learning approach replace spelling instruction? *Journal of Educational Psychology, 92*(2), 235-247. doi: 10.1037/0022-0663.92.2.235
- Graham, S., Berninger, V. W., Abbott, R. D., Abbott, S. P., & Whitaker, D. (1997). Role of mechanics in composing of elementary school students: A new methodological approach. *Journal of Educational Psychology, 89*(1), 170-182. doi: 10.1037/0022-0663.89.1.170
- Graham, S., Harris, K. R., & Troia, G. A. (1998). Writing and self-regulation: Cases from the self-regulated strategy development model. In D. H. Schunk & B. J. Zimmerman (Eds.), *Self-regulated learning: From teaching to self-reflective practice* (pp. 20-42). New York: Guilford Press.
- Gredler, M. E., & Shields, C. C. (2008). *Vygotsky's legacy: A foundation for research and practice*. New York: Guilford Press.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(3), 255-274.
- Guilford, J. P. (1950). Creativity. *American Psychologist, 5*, 444-454.
- Happo, I., Määttä, K., & Uusiautti, S. (2012). Experts or good educators – or both? The development of early childhood educators' expertise in Finland. *Early Child Development and Care, 182*(3-4), 487-504. doi: 10.1080/03004430.2011.646719

- Hardy, I., & Boyle, C. (2011). My school? Critiquing the abstraction and quantification of education. *Asia-Pacific Journal of Teacher Education*, 39(3), 211-222.
- Hargreaves, A., Halász, G. b., & Pont, B. (2007). School leadership for systemic improvement in Finland: A case study report for the OECD activity improving school leadership. Paris: Organization for Economic Cooperation and Development.
- Harlen, W. (2007). *Assessment of learning*. London; Thousand Oaks; New Delhi; Singapore: Sage Publications.
- Harlen, W. (2009). Improving assessment of learning and for learning. *Education 3-13*, 37(3), 247-257. doi: 10.1080/03004270802442334
- Harris, L. R., & Brown, G. T. L. (2013). Opportunities and obstacles to consider when using peer- and self-assessment to improve student learning: Case studies into teachers' implementation. *Teaching and Teacher Education*, 36(0), 101-111. doi: <http://dx.doi.org/10.1016/j.tate.2013.07.008>
- Harrison, C. (2007). Making assessment work in the classroom. In J. Dillon & M. Maguire (Eds.), *Becoming a teacher: Issues in secondary teaching* (pp. 213-223). Maidenhead, Berkshire, England: Open University Press, McGraw-Hill Education.
- Harrison, S., & Prain, V. (2009). Self-regulated learning in junior secondary English. *Issues in Educational Research*, 19(3), 227-242.
- Hastie, S. K. (2013). *Setting academic achievement goals in primary schools*. PhD dissertation, University of Auckland, Auckland.
- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Abingdon, UK; New York: Routledge
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. Abingdon, UK; New York: Routledge.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81-112. doi: 10.3102/003465430298487
- Havnes, A., Smith, K., Dysthe, O., & Ludvigsen, K. (2012). Formative assessment and feedback: Making learning visible. *Studies In Educational Evaluation*, 38(1), 21-27. doi: <http://dx.doi.org/10.1016/j.stueduc.2012.04.001>
- Hawe, E., & Parr, J. (2013). Assessment for learning in the writing classroom: An incomplete realisation. *The Curriculum Journal*, 1-28. doi: 10.1080/09585176.2013.862172

- Hayward, L. (2012). Assessment and learning: The learner's perspective. In J. Gardner (Ed.), *Assessment and learning* (2nd ed., pp. 125-139). London: Sage.
- Hennessey, B. A. (2003). The social psychology of creativity. *Scandinavian Journal of Educational Research*, 47(3), 253.
- Hennessey, B. A. (2010). The creativity-motivation connection. In J. C. Kaufman & R. J. Sternberg (Eds.), *The Cambridge handbook of creativity* (pp. 342-366). Cambridge; New York: Cambridge University Press.
- Hennessey, B. A., & Amabile, T. M. (1988). Story-telling: A method for assessing children's creativity. *The Journal of Creative Behavior*, 22(4), 235-246. doi: 10.1002/j.2162-6057.1988.tb00502.x
- Hennessey, B. A., & Amabile, T. M. (2010). Creativity. *Annual Review of Psychology*, 61(1), 569-598. doi: 10.1146/annurev.psych.093008.100416
- Heveron-Smith, M. (2012). Punctuation: The power and the possibilities. *English Journal*, 101(4), 101-103.
- Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist*, 41(2), 111-127. doi: 10.1207/s15326985ep4102\_4
- Hill, M., Cowie, B., Gilmore, A., & Smith, L. F. (2010). Preparing assessment-capable teachers: What should preservice teachers know and be able to do? *Assessment Matters*, Vol. 2, 43-64.
- Howe, K. R. (1988). Against the quantitative-qualitative incompatibility thesis or dogmas die hard. *Educational Researcher*, 17(10), 10-16. doi: DOI: 10.3102/0013189X017008010
- Howell, J. (2014). *Teaching and learning: Building effective pedagogies*. South Melbourne: Oxford University Press.
- Hughes, J. A. (1990). *The philosophy of social research* (2nd ed.). London; New York: Longman.
- International Baccalaureate Organization. (2007). *Primary years programme, making the PYP happen: A curriculum framework for international primary education*. International Baccalaureate Organization. Cardiff, UK: International Baccalaureate Organization
- Isen, A. M., & Reeve, J. (2005). The influence of positive affect on intrinsic and extrinsic motivation: Facilitating enjoyment of play, responsible work behavior, and self-control. *Motivation & Emotion*, 29(4), 295-325. doi: 10.1007/s11031-006-9019-8

- James, M. (2008). Assessment and learning. In S. Swaffield (Ed.), *Unlocking assessment: Understanding for reflection and application* (pp. 20-35). Abingdon: Routledge.
- James, M., & Pedder, D. (2006). Beyond method: Assessment and learning practices and values. *The Curriculum Journal*, *17*(2), 109-138. doi: 10.1080/09585170600792712
- James, M., & Pollard, A. (2011a). Introduction. *Research Papers in Education*, *26*(3), 269-273. doi: 10.1080/02671522.2011.595541
- James, M., & Pollard, A. (2011b). TLRP's ten principles for effective pedagogy: Rationale, development, evidence, argument and impact. *Research Papers in Education*, *26*(3), 275-328. doi: 10.1080/02671522.2011.590007
- Jang, H., Kim, E. J., & Reeve, J. (2012). Longitudinal test of self-determination theory's motivation mediation model in a naturally occurring classroom context. *Journal of Educational Psychology*, *104*(4), 1175-1188. doi: 10.1037/a0028089
- Jeong, G. O. (2003). Starting of the Department of Ministry of Education & Human Resources Development. In Korean Educational Development Institute (Ed.), *2002 Korea education review* (pp. 137-172). Seoul: Korean Educational Development Institute.
- Johns, D. P. (2002). Changing curriculum policy into practice: The case of physical education in Hong Kong. *Curriculum Journal*, *13*(3), 361-385. doi: 10.1080/0958517022000014718
- Jonassen, D. H. (2006). A constructivist's perspective on functional contextualism. *Educational Technology Research and Development*, *54*(1), 43-47.
- Jones, K. (2004). A balanced school accountability model: An alternative to high-stakes testing. *Phi Delta Kappan*, *85*(8), 584-590.
- Karabenick, S. A. (2004). Perceived achievement goal structure and college student help seeking. *Journal of Educational Psychology*, *96*(3), 569-581. doi: 10.1037/0022-0663.96.3.569
- Karabenick, S. A. (2011). Methodological and assessment issues in research on help seeking. In B. J. Zimmerman & D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 267-281). New York; London: Routledge.
- Karabenick, S. A., & Berger, J.-L. (2013). Help seeking as a self-regulated learning strategy. In H. Bembennuty, T. J. Cleary & A. Kitsantas (Eds.), *Applications of self-regulated learning across diverse disciplines: A tribute to Barry J. Zimmerman* (pp. 237-261). Charlotte, NC, USA: Information Age Publishing.

- Karabenick, S. A., & Dembo, M. H. (2011). Understanding and facilitating self-regulated help seeking. In H. Bembenuddy (Ed.), *Self-regulated learning* (pp. 33--43). San Francisco: Jossey-Bass.
- Karabenick, S. A., & Newman, R. S. (2006). Help seeking in academic settings : Goals, groups, and contexts (e-book published, 2013) Retrieved from <http://CSUAU.ebib.com/patron/FullRecord.aspx?p=331697>
- Kaufman, J. C., & Beghetto, R. A. (2009). Beyond big and little: The four c model of creativity. *Review of General Psychology, 13*(1), 1-12. doi: 10.1037/a0013688
- Kaufman, J. C., & Beghetto, R. A. (2013). In praise of Clark Kent: Creative metacognition and the importance of teaching kids when (not) to be creative. *Roeper Review, 35*(3), 155-165. doi: 10.1080/02783193.2013.799413
- Kaufman, J. C., & Sternberg, R. J. (2010). *The Cambridge handbook of creativity*. Cambridge; New York; Melbourne; Madrid; Cape Town; Singapore; Sao Paulo; Delhi; Dubai; Tokyo; Mexico City: Cambridge University Press.
- Kim, C., Park, S. W., & Cozart, J. (2014). Affective and motivational factors of learning in online mathematics courses. *British Journal of Educational Technology, 45*(1), 171-185. doi: 10.1111/j.1467-8535.2012.01382.x
- Kim, G.-J. (2002). Education policies and reform in South Korea. *Secondary education in Africa: Strategies for renewal* (pp. 29-40). Washington DC: The World Bank.
- Kim, J. W. (2004). Education reform policies and classroom teaching in South Korea. *International Studies in Sociology of Education, 14*(2), 125-146. doi: 10.1080/09620210400200122
- Kim, K. T., Joo, Y. H., Kim, S. Y., & Park, K. Y. (2009). A political approach of Korea's standardized test result public release policy. *Korean Educational Development Institute [KEDI] Journal of Educational Policy, 6*(2), 97-119.
- Klenowski, V. (1995a). Student self-evaluation processes in student-centred teaching and learning contexts of Australia. *Assessment in Education: Principles, Policy & Practice, 2*(2), 145.
- Klenowski, V. (1995b). Student self-evaluation processes in student-centred teaching and learning contexts of Australia and England. *Assessment in Education: Principles, Policy & Practice, 2*(2), 145-164.
- Klenowski, V. (2009). Assessment for learning revisited: An Asia-Pacific perspective. *Assessment in Education: Principles, Policy & Practice, 16*(3), 263-268. doi: 10.1080/09695940903319646

- Klenowski, V. (2011). Assessment for learning in the accountability era: Queensland, Australia. *Studies In Educational Evaluation*, 37(1), 78-83. doi: 10.1016/j.stueduc.2011.03.003
- Klenowski, V. (2013). Towards fairer assessment. *Australian Educational Researcher*, 1-26. doi: DOI 10.1007/s13384-013-0132-x
- Klenowski, V., & Wyatt-Smith, C. (2011). The impact of high stakes testing: The Australian story. *Assessment in Education: Principles, Policy & Practice*, 19(1), 65-79. doi: 10.1080/0969594x.2011.592972
- Klenowski, V., & Wyatt-Smith, C. (2014). *Assessment for education: Standards, judgement and moderation*. London; Los Angeles; New Delhi; Singapore: Sage.
- Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin*, 119(2), 254-284. doi: 10.1037/0033-2909.119.2.254
- Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. New York; Cambridge: The Adult Education Company.
- Koestner, R., Zuckerman, M., & Koestner, J. (1989). Attributional focus of praise and children's intrinsic motivation: The moderating role of gender. *Personality and Social Psychology Bulletin*, 15(1), 61-72. doi: 10.1177/0146167289151006
- Kozbelt, A., Beghetto, R. A., & Runco, M. A. (2010). Theories of creativity. In J. C. Kaufman & R. J. Sternberg (Eds.), *The Cambridge handbook of creativity* (pp. 20-48). Cambridge; New York: Cambridge University Press.
- Krathwohl, D. (2002). A revision of Bloom's taxonomy: An overview. *Theory Into Practice*, 41(4), 212-218. doi: 10.1207/s15430421tip4104\_2
- Krathwohl, D., Bloom, B. S., & Masia, B. B. (1964). *Taxmonomy of educational objectives: The classification of educational goals. Handbook II: The affective domain* (Vol. David McKay). New York: Longman
- Lambert, N. M., & McCombs, B. L. (1998). Introduction: Learner-centred schools and classrooms as a direction for school reform. In N. M. Lambert & B. L. McCombs (Eds.), *How students learn: Reforming schools through learner-centered education* (pp. 1-23). Washington: American Psychological Association.
- Lankshear, C., & Knobel, M. (2004). *A handbook for teacher research: From design to implementation*. Maidenhead, UK: Open University Press.

- Lapadat, J. C., & Lindsay, A. C. (1999). Transcription in research and practice: From standardization of technique to interpretive positionings. *Qualitative Inquiry*, 5(1), 64-86. doi: 10.1177/107780049900500104
- Leahy, S., Lyon, C., Thompson, M., & Wiliam, D. (2005). Classroom assessment minute by minute, day by day. *Educational Leadership*, 63(3), 18.
- Lee, I. (2007). Feedback in Hong Kong secondary writing classrooms: Assessment for learning or assessment of learning? *Assessing Writing*, 12(3), 180-198. doi: 10.1016/j.asw.2008.02.003
- Lee, W., Lee, M.-J., & Bong, M. (2014). Testing interest and self-efficacy as predictors of academic self-regulation and achievement. *Contemporary Educational Psychology*, 39(2), 86-99. doi: <http://dx.doi.org/10.1016/j.cedpsych.2014.02.002>
- Lee, W., & Reeve, J. (2012). Teachers' estimates of their students' motivation and engagement: Being in synch with students. *Educational Psychology: An International Journal of Experimental Educational Psychology*, 32(6), 727-747. doi: 10.1080/01443410.2012.732385
- Lee, Y. (2010). Views on education and achievement: Finland's story of success and South Korea's story of decline. *Korean Educational Development Institute [KEDI] Journal of Educational Policy*, 7(2), 379-401.
- Leech, N. L., Onwuegbuzie, A. J., & Combs, J. P. (2011). Writing publishable mixed research articles: Guidelines for emerging scholars in the health sciences and beyond. *International Journal of Multiple Research Approaches*, 5(7), 7-24.
- Leung, A. K. C. (2000). Foreword: Learning for life, learning through life. In (Chairman) (Ed.), (pp. i-ii). Hong Kong: Education Commission.
- Leutner, D., Leopold, C., & den Elzen-Rump, V. (2007). Self-regulated learning with a text-highlighting strategy: A training experiment. *Zeitschrift fur Psychologie/Journal of Psychology*, 215(3), 174-182. doi: 10.1027/0044-3409.215.3.174
- Lingard, B. (2010). Policy borrowing, policy learning: Testing times in Australian schooling. *Critical Studies in Education*, 51(2), 129-147.
- Lingard, B. (2011). Changing teachers' work in Australia. In N. Mockler & J. Sachs (Eds.), *Rethinking educational practice through reflexive inquiry: Essays in honour of Susan Groundwater-Smith* (pp. 229-245). Dordrecht: Springer.
- Lingard, B., & McGregor, G. (2014). Two contrasting Australian curriculum responses to globalisation: What students should learn or become. *The Curriculum Journal*, 1-21. doi: 10.1080/09585176.2013.872048

- Lingard, B., & Sellar, S. (2013). 'Catalyst data': Perverse systemic effects of audit and accountability in Australian schooling. *Journal of Education Policy*, 1-23. doi: 10.1080/02680939.2012.758815
- Lipman, P. (2009). Paradoxies of teaching in neo-liberal times: Educational 'reform' in Chicago. In S. Gewirtz, P. Mahony, I. Hextall & A. Cribb (Eds.), *Changing teacher professionalism: International trends, challenges and ways forward* (pp. 67- 80). Milton Park, UK: Routledge.
- Lobascher, S. (2011). What are the potential impacts of high-stakes testing on literacy education in Australia? *Literacy Learning: The Middle Years*, 19(2), 9-19.
- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, 57(9), 705-717. doi: 10.1037/0003-066x.57.9.705
- Loyens, S. M., Magda, J., & Rikers, R. J. P. (2008). Self-directed learning in problem-based learning and its relationships with self-regulated learning. *Educational Psychology Review*, 20(4), 411-427. doi: 10.1007/s10648-008-9082-7
- MacSpeech. (2008). MacSpeech Dictate.
- Madaus, G. F., Raczek, A. E., & Clarke, M. M. (1997). The historical and policy foundations of the assessment movement. In A. L. Goddwin (Ed.), *Assessment for equity and inclusion* (pp. 1-35). New York; London: Routledge.
- Marshall, B., & Drummond, M. J. (2006). How teachers engage with assessment for learning: Lessons from the classroom. *Research Papers in Education*, 21(02), 133-149.
- Marshall, M. N. (1996). Sampling for qualitative research. *Family Practice*, 13(6), 522-526. doi: doi:10.1093/fampra/13.6.522
- Martin, A. J. (2010). *Building classroom success: Eliminating academic fear and failure*. London: Continuum.
- Matheson, J. L. (2007). The voice transcription technique: Use of voice recognition software to transcribe digital interview data in qualitative research. *The Qualitative Report*, 12(4), 547-560.
- Mattern, K. D., & Shaw, E. J. (2010). A look beyond cognitive predictors of academic success: Understanding the relationship between academic self-beliefs and outcomes. *Journal of College Student Development*, 51(6), 665-678.
- McGaw, B. A note from ACARA. Retrieved 3 July, 2012, from <http://www.myschool.edu.au/>

- McLeod, J. H., & Reynolds, R. (2006). *Quality teaching for quality learning: Planning through reflection*. South Melbourne: Thomson Social Science Press.
- Merriam, S. B. (2001). Andragogy and self-directed learning: Pillars of adult learning theory. *New Directions for Adult & Continuing Education*, 2001(89), 3.
- Meyer, J. W., Ramirez, F. O., & Soysal, Y. N. (1992). World expansion of mass education, 1870-1980. *Sociology of Education*, 65(2), 128-149.
- Ministerial Council on Education, Employment, Training and Youth Affairs. (2006). *National report on schooling in Australia 2006*. Melbourne: Curriculum Corporation. Retrieved from [http://www.mceetya.edu.au/verve/\\_resources/Benchmarks\\_2006\\_Years35and7-Final.pdf](http://www.mceetya.edu.au/verve/_resources/Benchmarks_2006_Years35and7-Final.pdf).
- Ministerial Council on Education, Employment, Training and Youth Affairs. (2008a). *Melbourne declaration on educational goals for young Australians*. Melbourne: Curriculum Corporation. Retrieved from [http://www.curriculum.edu.au/verve/\\_resources/National\\_Declaration\\_on\\_the\\_Educational\\_Goals\\_for\\_Young\\_Australians.pdf](http://www.curriculum.edu.au/verve/_resources/National_Declaration_on_the_Educational_Goals_for_Young_Australians.pdf).
- Ministerial Council on Education, Employment, Training and Youth Affairs (2008b). *Narrative marking guide: 2008 National Assessment Program – Literacy and Numeracy*. Canberra: Ministerial Council on Education, Employment, Training and Youth Affairs
- Molloy, E., & Boud, D. (2013). Seeking a different angle on feedback in clinical education: The learner as seeker, judge and user of performance information. *Medical Education*, 47(3), 227-229. doi: 10.1111/medu.12116
- Morgan, D. L. (2007). Paradigms lost and pragmatism regained : Methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research*, 1(1), 48-76. doi: 0.1177/2345678906292462
- Morris, P. (2002). Promoting curriculum reforms in the context of a political transition: An analysis of Hong Kong's experience. *Journal of Education Policy*, 17(1), 13-28. doi: 10.1080/02680930110100036
- Morris, P., & Scott, I. (2003). Educational reform and policy implementation in Hong Kong. *Journal of Education Policy*, 18(1), 71.
- Morrison, V. F. (2007). "You have to find a way to glue it in your brain": *Children's views on learning multiplication facts*. Master of Teaching and Learning, University of Canterbury, Christchurch. Retrieved from <http://hdl.handle.net/10092/1059> Australian Digital Theses Program database.

- National Curriculum Board. (2008). *The shape of the national curriculum: A proposal for discussion*. Canberra: Commonwealth of Australia. Retrieved from [http://www.ncb.org.au/our\\_work/preparing\\_for\\_2009.html](http://www.ncb.org.au/our_work/preparing_for_2009.html).
- Natriello, G. (1987). The impact of evaluation on students. *Educational Psychologist*, 22(2), 155.
- Newman, D., Griffin, P., & Cole, M. (1989). *The construction zone: Working for cognitive change in school*. Cambridge: Cambridge University Press.
- Newman, R. S. (1990). Children's help-seeking in the classroom: The role of motivational factors and attitudes. *Journal of Educational Psychology*, 82(1), 71-80.
- Newman, R. S. (2000). Social Influences on the development of children's adaptive help seeking: The role of parents, teachers, and peers. *Developmental Review*, 20(3), 350-404. doi: <http://dx.doi.org/10.1006/drev.1999.0502>
- Newmann, F. M., Brandt, R., & Wiggins, G. (1998). An exchange of views on "semantics, psychometrics, and assessment reform: A close look at 'authentic' assessments". *Educational Researcher*, 27(6), 19-22. doi: 10.2307/1176091
- Newmann, F. M., & Wehlage, G. G. (1993). Five standards of authentic instruction. *Educational leadership*, 50(7), 8-12.
- Nichols, J. D. (2006). Empowerment and relationships: A classroom model to enhance student motivation. *Learning Environments Research*, 9(2), 149-161. doi: 10.1007/s10984-006-9006-8
- Nichols, S. L., & Berliner, D. C. (2007). Collateral damage : How high-stakes testing corrupts America's schools / Sharon L. Nichols and David C. Berliner. In D. C. Berliner (Ed.). Cambridge, Mass.: Harvard Education Press.
- Nicolopoulou, A., & Richner, E. S. (2007). From actors to agents to persons: The development of character representation in young children's narratives. [10.1111/j.1467-8624.2007.01006.x]. *Child Development*, 78(2), 412-429.
- Niehaus, K., Rudasill, K. M., & Adelson, J. L. (2012). Self-efficacy, intrinsic motivation, and academic outcomes among Latino middle school students participating in an after-school program. *Hispanic Journal of Behavioral Sciences*, 34(1), 118-136. doi: 10.1177/0739986311424275
- Northern Territory Department of Education and Children's Services. (2009a). *NT curriculum framework*. Darwin: Northern Territory Government. Retrieved from [http://www.education.nt.gov.au/\\_\\_data/assets/pdf\\_file/0016/2392/ntcf\\_overview.pdf](http://www.education.nt.gov.au/__data/assets/pdf_file/0016/2392/ntcf_overview.pdf).

- Northern Territory Department of Education and Children's Services. (2009b). *NT curriculum framework: English*. Darwin: Northern Territory Government. Retrieved from [http://www.education.nt.gov.au/\\_\\_data/assets/pdf\\_file/0014/2381/english\\_writing.pdf](http://www.education.nt.gov.au/__data/assets/pdf_file/0014/2381/english_writing.pdf).
- Nückles, M., Hübner, S., & Renkl, A. (2009). Enhancing self-regulated learning by writing learning protocols. *Learning and Instruction, 19*(3), 259-271. doi: <http://dx.doi.org/10.1016/j.learninstruc.2008.05.002>
- OECD – *see* Organisation for Economic Co-Operation and Development
- Office for Standards in Education. (2003). *Yes he can: Schools where boys write well*. Report. London: Office for Standards in Education.
- OISE – *see* Ontario Institute for Studies in Education
- O'Keefe, P. A., & Linnenbrink-Garcia, L. (2014). The role of interest in optimizing performance and self-regulation. *Journal of Experimental Social Psychology, 53*(0), 70-78. doi: <http://dx.doi.org/10.1016/j.jesp.2014.02.004>
- Oliver, D. G., Serovich, J. M., & Mason, T. L. (2005). Constraints and opportunities with interview transcription: Towards reflection in qualitative research. *Social Forces, 84*(2), 1273-1289. doi: 10.2307/3598499
- O'Neill, O. (2002). *A question of trust*. Cambridge: Cambridge University Press.
- O'Neill, O. (2013). Intelligent accountability in education. *Oxford Review of Education, 39*(1), 4-16. doi: 10.1080/03054985.2013.764761
- Ontario Institute for Studies in Education. (2009). *The road ahead: Boys' literacy teacher inquiry project 2005 to 2008: Final report*. Toronto: Ontario Institute for Studies in Education, University of Toronto Research Team.
- Onwuegbuzie, A. J. (2007). Sampling designs in qualitative research: Making the sampling process more public. *The Qualitative Report, 12*(2), 238.
- Onwuegbuzie, A. J., & Collins, K. M. T. (2007). A typology of mixed methods sampling designs in social science research. *The Qualitative Report, 12*(2), 281-316.
- Onwuegbuzie, A. J., & Johnson, R. B. (2006). The validity issue in mixed research. *Research in the Schools, 13*(1), 48-63.
- Onwuegbuzie, A. J., & Leech, N. L. (2004). Enhancing the interpretation of "significant" findings: The role of mixed methods research. *The Qualitative Report, 9*(4), 770-792.
- Onwuegbuzie, A. J., & Leech, N. L. (2005). On becoming a pragmatic researcher: The importance of combining quantitative and qualitative research

methodologies. *International Journal of Social Research Methodology*, 8(5), 375-387. doi: 10.1080/13645570500402447

Organisation for Economic Co-operation and Development. *PISA Background and basics* (n.d). Retrieved 16 June, 2012, from [http://www.oecd.org/document/53/0,3746,en\\_32252351\\_32235731\\_38262901\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/53/0,3746,en_32252351_32235731_38262901_1_1_1_1,00.html)

Organisation for Economic Co-operation and Development. (2014). *PISA 2012 participants* Retrieved 14 November, 2014, from <http://www.oecd.org/pisa/aboutpisa/pisa-2012-participants.htm>

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research*, 66(4), 543-578. doi: 10.2307/1170653

Pajares, F. (1997). Current directions in self-efficacy research. In M. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (Vol. 10, pp. 1-49). Greenwich,CT: JAI Press.

Pajares, F., & Valiante, G. (2002). Students' self-efficacy in their self-regulated learning strategies: A developmental perspective. *Psychologia* 45(4), 211-221. doi: 10.2117/psysoc.2002.211

Paraskevas, C. (2004). The craft of writing: Breaking conventions. *The English Journal*, 93(4), 41-46. doi: 10.2307/4128979

Paris, S. G., & Newman, R. S. (1990). Development aspects of self-regulated learning. *Educational Psychologist*, 25(1), 87.

Park, J., & Zeanah, A. E. (2005). An evaluation of voice recognition software for use in interview-based research: A research note. *Qualitative Research*, 5(2), 245-251. doi: 10.1177/1468794105050837

Patall, E. A. (2013). Constructing motivation through choice, interest, and interestingness. *Journal of Educational Psychology*, 105(2), 522-534. doi: 10.1037/a0030307

Patall, E. A., Cooper, H., & Robinson, J. C. (2008). The effects of choice on intrinsic motivation and related outcomes: A meta-analysis of research findings. *Psychological Bulletin*, 134(2), 270-300.

Pedder, D., & James, M. (2012). Professional learning as a condition for assessment for learning. In J. Gardner (Ed.), *Assessment and learning* (2nd ed., pp. 33-48). London: Sage.

Pekrun, R., Elliot, A., & Maier, M. (2006). Achievement goals and discrete achievement emotions: A theoretical model and prospective test. *Journal of Educational Psychology*, 98(3), 583-597. doi: 10.1037/0022-0663.98.3.583

- Perrenoud, P. (1998). From formative evaluation to a controlled regulation of learning processes. Towards a wider conceptual field. *Assessment in Education: Principles, Policy & Practice*, 5(1), 85-102. doi: 10.1080/0969595980050105
- Perry, N. E. (1998). Young children's self-regulated learning and contexts that support it. *Journal of Educational Psychology*, 90(4), 715-729. doi: 10.1037/0022-0663.90.4.715
- Perry, N. E., Hutchinson, L., & Thauberger, C. (2007). Mentoring student teachers to design and implement literacy tasks that support self-regulated reading and writing. *Reading & Writing Quarterly*, 23(1), 27-50. doi: 10.1080/10573560600837636
- Perry, N. E., & Rahim, A. (2011). Studying self-regulated learning in classrooms. In B. J. Zimmerman & D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 122-136). New York; London: Routledge.
- Perry, N. E., VandeKamp, K., Mercer, L., & Nordby, C. (2002). Investigating teacher-student interactions that foster self-regulated learning. *Educational Psychologist*, 37(1), 5-15. doi: 10.1207/00461520252828519
- Peters, M. (2001). National education policy constructions of the 'knowledge economy': Towards a critique. *Journal of Educational Enquiry*, 2(1), 1-22.
- Piaget, J. (2008). Intellectual evolution from adolescence to adulthood. *Human Development*, 51(1), 40-47.
- Pilling-Cormick, J. (1997, Summer97). Transformative and self-directed learning in practice, *New Directions for Adult & Continuing Education*, p. 69.
- Pilling-Cormick, J., & Garrison, D. R. (2007). Self-directed and self-regulated learning: Conceptual links. *Canadian Journal of University Continuing Education*, 33(2), 13-33.
- Pintrich, P. R. (1999). The role of motivation in promoting and sustaining self-regulated learning. *International Journal of Educational Research*, 31(6), 459-470. doi: 10.1016/S0883-0355(99)00015-4
- Pintrich, P. R. (2000). The role of goal orientation in self-regulated learning. In M. Boerkaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 452-502). Burlington, USA; San Diego, USA; London: Elsevier Academic Press.
- Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology*, 95(4), 667-686.
- Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review*, 16(4).

- Pintrich, P. R., & De Groot, E. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*(1), 33-40.
- Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in Education: Theory, research, and applications* (2nd ed.). Upple Saddle River, NJ: Merrill/Prentice Hall.
- Pintrich, P. R., & Zusho, A. (2002). The development of academic self-regulation: The role of cognitive and motivational factors. In A. Wigfield & J. Eccles (Eds.), *Development of achievement motivation*. San Diego, CA: Academic Press.
- Plucker, J. A., Beghetto, R. A., & Dow, G. T. (2004). Why isn't creativity more important to educational psychologists? Potentials, pitfalls, and future directions in creativity research. *Educational Psychologist, 39*(2), 83-96.
- Plucker, J. A., & Makel, M. C. (2010). Assessment of creativity. In J. C. Kaufman & R. J. Sternberg (Eds.), *The Cambridge handbook of creativity* (pp. 48-75). Cambridge; New York: Cambridge University Press.
- Popham, W. J. (1999). Why standardized tests don't measure educational quality. *Educational Leadership, 56*(6), 8.
- Position paper on assessment for learning. (2009). The Third International Conference on Assessment for Learning, Dunedin, New Zealand, March 15-20, 2009.
- Punch, K. F. (2009). *Introduction to research methods in education*. London: Sage.
- Queensland Studies Authority. (2009). Student assessment regimes: Getting the balance right for Australia. Brisbane: Queensland Studies Authority.
- Rachman, G. (2011). *Zero-sum future: American power in an age of anxiety*. New York: Simon & Schuster.
- Randi, J., & Corno, L. (2000). Teacher innovations in self-regulated learning. In M. Boerkaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 651-685). Burlington, USA; San Diego, USA; London: Elsevier Academic Press.
- Readman, K., & Allen, B. (2013). *Practical planning and assessment*. South Melbourne: Oxford University Press.
- Reeve, J. (2009). Why teachers adopt a controlling motivating style toward students and how they can become more autonomy supportive. *Educational Psychologist, 44*(3), 159-175. doi: 10.1080/00461520903028990

- Reeve, J. (2011). Teaching in ways that support students' autonomy. In D. M. E. Hammer (Ed.), *Enhancing teaching and learning* (pp. 90-103). Hoboken, NJ: Wiley-Blackwell.
- Reeve, J. (2012). A self-determination theory perspective on student engagement. In S. L. Christenson, A. L. Reschly & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 149-172). New York: Springer.
- Reeve, J. (2013). How students create motivationally supportive learning environments for themselves: The concept of agentic engagement. *Journal of Educational Psychology, 105*(3), 579-595. doi: 10.1037/a0032690
- Reeve, J., Deci, E. L., & Ryan, R. M. (2004). Self-determination theory: A dialectical framework for understanding the socio-cultural influences on student motivation. In D. McInerney & S. Van Etten (Eds.), *Research on sociocultural influences on motivation and learning: Big theories revisited* (Vol. 4, pp. 31-59). Greenwich, CT: Information Age Press.
- Reeve, J., & Lee, W. (2014). Students' classroom engagement produces longitudinal changes in classroom motivation. *Journal of Educational Psychology, 106*(2), 527-540. doi: 10.1037/a0034934
- Reeve, J., Nix, G., & Hamm, D. (2003). Testing models of the experience of self-determination in intrinsic motivation and the conundrum of choice. *Journal of Educational Psychology, 95*(2), 375-392. doi: 10.1037/0022-0663.95.2.375
- Reeve, J., & Tseng, C.-M. (2011). Agency as a fourth aspect of students' engagement during learning activities. *Contemporary Educational Psychology, 36*(4), 257-267. doi: <http://dx.doi.org/10.1016/j.cedpsych.2011.05.002>
- Reid, A. (2009). Is this a revolution? A critical analysis of the Rudd government's national education agenda. *Curriculum Perspectives, 29*(3), 1-13.
- Renninger, K. A., & Hidi, S. (2011). Revisiting the conceptualization, measurement, and generation of interest. *Educational Psychologist, 46*(3), 168-184. doi: 10.1080/00461520.2011.587723
- Reschly, A. L., & Christensen, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. In S. L. Christenson, A. L. Reschly & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 3-19). New York: Springer.
- Richards, R. (2010). Everyday creativity: Process and way of life – four key issues. In J. C. Kaufman & R. J. Sternberg (Eds.), *The Cambridge handbook of creativity* (pp. 189-216). Cambridge; New York: Cambridge University Press.

- Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin*, *138*(2), 353-387. doi: 10.1037/a0026838
- Richardson, V. (1997). Constructivist teaching and teacher education: Theory and practice. In V. Richardson (Ed.), *Constructivist teacher education: Building a world of new understandings* (pp. 3-14). London: RoutledgeFalmer.
- Richardson, V. (2003). Constructivist pedagogy. *Teachers College Record*, *105*(9), 1623-1640.
- Ripley, A. (2011, September 25, 2011). South Korea: Kids, stop studying so hard! *Time Magazine*. Retrieved from <http://www.time.com/time/magazine/article/0,9171,2094427-2,00.html>
- Rizvi, F., & Lingard, B. (2010). *Globalizing education policy*. Abingdon, UK; New York: Routledge.
- Robertson, J. (2011). The educational affordances of blogs for self-directed learning. *Computers & Education*, *57*(2), 1628-1644. doi: <http://dx.doi.org/10.1016/j.compedu.2011.03.003>
- Ryan, A. M., & Pintrich, P. R. (1998). Achievement and social motivational influences on help-seeking in the classroom. In S. Karabenick (Ed.), *Strategic help seeking: Implications for learning and teaching* (pp. 117-139). Mahwah, NJ: Lawrence Erlbaum Associates.
- Ryan, A. M., & Shin, H. (2011). Help-seeking tendencies during early adolescence: An examination of motivational correlates and consequences for achievement. *Learning and Instruction*, *21*(2), 247-256. doi: <http://dx.doi.org/10.1016/j.learninstruc.2010.07.003>
- Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3-33). Rochester, NY: University of Rochester Press.
- Ryoo, J. S.-C. (2011). An analysis of practical autonomy in education: The case of Korean self-directed learning policy. *KEDI Journal of Educational Policy*, *8*(2), 345-363.
- Sadler, D. R. (1989). Formative assessment and the design of instructional systems. *Instructional Science*, *18*(2), 119-144.
- Sadler, D. R. (2002). Ah!... So that's 'quality'. In P. Schwartz & G. Webb (Eds.), *Assessment: Case studies, experience and practice from higher education* (pp. 130-136). London: Kogan Page.

- Sahlberg, P. (2006). Education reform for raising economic competitiveness. *Journal of Educational Change*, 7(4), 259-287. doi: 10.1007/s10833-005-4884-6
- Sahlberg, P. (2007). Education policies for raising student learning: The Finnish approach. *Journal of Education Policy*, 22(2), 147-171. doi: 10.1080/02680930601158919
- Sahlberg, P. (2009). Educational change in Finland. In A. Hargreaves, A. Lieberman, M. Fullan & D. Hopkins (Eds.), *Second international handbook of educational change* (Vol. 23, pp. 323-348). Netherlands: Springer.
- Sahlberg, P. (2010). Rethinking accountability in a knowledge society. *Journal of Educational Change*, 11(1), 45-61. doi: 10.1007/s10833-008-9098-2
- Sahlberg, P. (2011). The fourth way of Finland. *Journal of Educational Change*, 12(2), 173-185. doi: 10.1007/s10833-011-9157-y
- Santrock, J. W. (2010). *Adolescence* (13th ed.). New York: McGraw-Hill.
- Schiefele, U. (1991). Interest, learning, and motivation. *Educational Psychologist*, 26(3/4), 299.
- Schiefele, U., & Csikszentmihalyi, M. (1994). Interest and the quality of experience in classrooms. *European Journal of Psychology of Education*, 9(3), 251-269. doi: 10.1007/bf03172784
- Schunk, D. H. (1985). Participation in goal setting: Effects on self-efficacy and skills of learning – disabled children. *Journal of Special Education*, 19(3).
- Schunk, D. H. (1990). Goal setting and self-efficacy during self-regulated learning. *Educational Psychologist*, 25(1), 71.
- Schunk, D. H. (1995). Self-efficacy and education and instruction. In J. E. Maddux (Ed.), *Self-efficacy, adaptation, and adjustment: Theory, research, and application* (pp. 281-303). New York: Plenum Press.
- Schunk, D. H. (1996). Goal and self-evaluative influences during children's cognitive skill learning. *American Educational Research Journal*, 33(2), 359-382. doi: 10.2307/1163289
- Schunk, D. H., & Ertmer, P. A. (2000). Self-regulation and academic learning: Self-efficacy enhancing interventions. In M. Boerkaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 631-649). Burlington, USA; San Diego, USA; London: Elsevier Academic Press.
- Schunk, D. H., & Mullen, C. A. (2012). Self-efficacy as an engaged learner. In S. L. Christenson, A. L. Reschly & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 219-235). New York: Springer.

- Schunk, D. H., & Pajares, F. (2005). Competence perceptions and academic functioning. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 85-105). New York: Guilford Press.
- Schunk, D. H., & Pajares, F. (2009). Self-efficacy theory. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 35-53). New York: Routledge.
- Schunk, D. H., & Usher, E. L. (2013). Barry J. Zimmermans's theory of self-regulated learning. In H. Bembenuddy, T. J. Cleary & A. Kitsantas (Eds.), *Applications of self-regulated learning across diverse disciplines: A tribute to Barry J. Zimmerman* (pp. 1-29). Charlotte, NC: Information Age Publishing Inc.
- Schunk, D. H., & Zimmerman, B. J. (2003). Self-regulation and learning. *Handbook of psychology*. New York: John Wiley & Sons, Inc.
- Scott, C. L. (1999). Teachers' biases toward creative children. *Creativity Research Journal*, 12(4), 321.
- Sellars, M. (2014). *Reflective practice for teachers*. Los Angeles; London; New Delhi; Singapore; Washington DC: Sage.
- Shapiro, L. R., & Hudson, J. A. (1991). Tell me a make-believe story: Coherence and cohesion in young children's picture-elicited narratives. *Developmental Psychology*, 27(6), 960-974. doi: 10.1037/0012-1649.27.6.960
- Shore, C. (2008). Audit culture and illiberal governance. *Anthropological Theory*, 8(3), 278-298. doi: 10.1177/1463499608093815
- Shorter Oxford English Dictionary. (2007) (6th ed., Vol. 1). Oxford: Oxford University Press.
- Shute, V. J. (2008). Focus on formative feedback. *Review of Educational Research*, 78(1), 153-189. doi: 10.2307/40071124
- Simola, H. (2005). The Finnish miracle of PISA: Historical and sociological remarks on teaching and teacher education. *Comparative Education*, 41(4), 455-470. doi: 10.1080/03050060500317810
- Simonton, D. K. (2000). Creativity: Cognitive, personal, developmental, and social aspects. *American Psychologist*, 55(1), 151-158. doi: 10.1037/0003-066x.55.1.151
- Simonton, D. K. (2010). Creativity in Highly Eminent Individuals. In J. C. Kaufman & R. J. Sternberg (Eds.), *The Cambridge Handbook of Creativity* (pp. 174-189). Cambridge; New York: Cambridge University Press.

- Sinclair, M. F., Christenson, S. L., Lehr, C. A., & Anderson, A. R. (2003). Facilitating student engagement: Lessons learned from Check & Connect longitudinal studies. *California School Psychologist*, 8(1), 29-41.
- Sirotkina, I., & Smith, R. (2012). Russian federation. In D. B. Baker (Ed.), *The Oxford handbook of the history of psychology: Global perspectives* (pp. 412-441). Oxford: Oxford University Press.
- Skinner, E. A., Kindermann, T. A., Connell, J. P., & Wellborn, J. G. (2009). Engagement as an organizational construct in the dynamics of motivational development. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 223-245). Mahwah, NJ: Erlbaum.
- Skinner, E. A., Kindermann, T. A., & Furrer, C. J. (2009). A motivational perspective on engagement and disaffection: Conceptualization and assessment of children's behavioral and emotional participation in academic activities in the classroom. *Educational and Psychological Measurement*, 69(3), 493-525. doi: 10.1177/0013164408323233
- Skinner, E. A., & Pitzer, J. R. (2012). Developmental dynamics of student engagement, coping and everyday resilience. In S. L. Christenson, A. L. Reschly & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 21-44). New York: Springer.
- Souvignier, E., & Mkhlesgerami, J. (2006). Using self-regulation as a framework for implementing strategy instruction to foster reading comprehension. *Learning and Instruction*, 16(1), 57-71. doi: <http://dx.doi.org/10.1016/j.learninstruc.2005.12.006>
- Splitter, L. (2009). Authenticity and constructivism in education. *Studies in Philosophy & Education*, 28(2), 135-151. doi: 10.1007/s11217-008-9105-3
- Spörer, N., Brunstein, J. C., & Kieschke, U. (2009). Improving students' reading comprehension skills: Effects of strategy instruction and reciprocal teaching. *Learning and Instruction*, 19(3), 272-286. doi: <http://dx.doi.org/10.1016/j.learninstruc.2008.05.003>
- Stankov, L., Morony, S., & Lee, Y. P. (2013). Confidence: The best non-cognitive predictor of academic achievement? *Educational Psychology*, 34(1), 9-28. doi: 10.1080/01443410.2013.814194
- Steed, C., & Poskitt, J. (2010). Adaptive help seeking: A strategy of self-regulated learners and an opportunity for interactive formative assessment. *Assessment Matters*. Vol. 2, 85-106.
- Sternberg, R. J. (2003). *Wisdom, intelligence, and creativity synthesized*. Cambridge; New York; Melbourne; Madrid; Capetown; Singapore; Sao Paulo; Delhi: Cambridge University Press.

- Sternberg, R. J. (2005). Intelligence, competence, and expertise. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 15-31). New York: Guilford Press.
- Sternberg, R. J. (2006). The nature of creativity. *Creativity Research Journal*, *18*(1), 87-98.
- Sternberg, R. J., & Lubart, T. I. (1991a). Creating creative minds. *The Phi Delta Kappan*, *72*(8), 608-614.
- Sternberg, R. J., & Lubart, T. I. (1991b). An investment theory of creativity and its development. *Human Development*, *34*(1), 1-31.
- Sternberg, R. J., & Lubart, T. I. (1992). Buy low and sell high: An investment approach to creativity. *Current Directions in Psychological Science*, *1*(1), 1-5.
- Sternberg, R. J., & Lubart, T. I. (1996). Investing in creativity. *American Psychologist*, *51*(7), 677-688. doi: 00000487-199607000-00001
- Stobart, G., & Eggen, T. (2012). High-stakes testing – value, fairness and consequences. *Assessment in Education: Principles, Policy & Practice*, *19*(1), 1-6. doi: 10.1080/0969594x.2012.639191
- Stoeger, H., & Ziegler, A. (2005). Evaluation of an elementary classroom self-regulated learning program for gifted mathematics underachievers. *International Education Journal*, *6*(2), 261-271.
- Stoeger, H., & Ziegler, A. (2008). Evaluation of a classroom based training to improve self-regulation in time management tasks during homework activities with fourth graders. *Metacognition and Learning*, *3*(3), 207-230. doi: 10.1007/s11409-008-9027-z
- Stringer, E. (2013). *Action research* (4th ed.). Thousand Oaks, California: Sage.
- Swaffield, S. (2008). Feedback: The central process in assessment for learning. In S. Swaffield (Ed.), *Unlocking assessment: Understanding for reflection and application* (pp. 57-72). Abingdon: Routledge.
- Swaffield, S. (2011). Getting to the heart of authentic assessment for learning. *Assessment in Education: Principles, Policy & Practice*, *18*(4), 433-449. doi: 10.1080/0969594x.2011.582838
- Taber, K. S. (2013). Beyond positivism: ‘Scientific’ research into education. In E. Wilson (Ed.), *School-based research: A guide for education students* (2nd ed., pp. 287-304). London: Sage.
- Tarricone, P. (2011). *The taxonomy of metacognition*. Hove, Sussex: Psychology Press.

- Teddlie, C., & Tasshakori, A. (2006). A general typology of research designs featuring mixed methods. *Research in the Schools, 13*(1), 12-28.
- Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research, 1*(1), 77-100.
- Timperley, H. S., & Parr, J. M. (2009). What is this lesson about? Instructional processes and student understandings in writing classrooms. *The Curriculum Journal, 20*(1), 43-60. doi: 10.1080/09585170902763999
- Torrance, H., & Pryor, J. (1995). Investigating teacher assessment in infant classrooms: Methodological problems and emerging issues. *Assessment in Education: Principles, Policy & Practice, 2*(3), 305-321.
- Towler, L., & Broadfoot, P. (1992). Self-assessment in the primary school. *Educational Review, 44*(2), 137-151.
- Urdu, T., & Turner, J. C. (2005). Competence motivation in the classroom. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 297-317). New York: Guilford Press.
- Usher, E. L., & Pajares, F. (2008). Sources of self-efficacy in school: Critical review of the literature and future directions. *Review of Educational Research, 78*(4), 751-796. doi: 10.2307/40071145
- Usher, E. L., & Pajares, F. (2009). Sources of self-efficacy in mathematics: A validation study. *Contemporary Educational Psychology, 34*(1), 89-101. doi: <http://dx.doi.org/10.1016/j.cedpsych.2008.09.002>
- Vansteenkiste, M., Lens, W., & Deci, E. L. (2006). Intrinsic versus extrinsic goal contents in self-determination theory: Another look at the quality of academic motivation. *Educational Psychologist, 41*(1), 19-31. doi: 10.1207/s15326985ep4101\_4
- Vansteenkiste, M., Niemiec, C. P., & Soenens, B. (2010). The development of the five mini-theories of self-determination theory: An historical overview, emerging trends, and future directions. *Advances in Motivation and Achievement*. Vol.16a, 105-165.
- Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating learning, performance, and persistence: The synergistic effects of intrinsic goal contents and autonomy-supportive contexts. *Journal of Personality and Social Psychology, 87*(2), 246-260.
- Vansteenkiste, M., Simons, J., Lens, W., Soenens, B., & Matos, L. (2005). Examining the motivational impact of intrinsic versus extrinsic goal framing and autonomy-supportive versus internally controlling communication style on early adolescents' academic achievement. *Child Development, 76*(2), 483-501. doi: 10.2307/3696516

- Vansteenkiste, M., Simons, J., Lens, W., Soenens, B., Matos, L., & Lacante, M. (2004). Less is sometimes more: Goal content matters. *Journal of Educational Psychology*, 96(4), 755-764.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, Massachusetts; London: Harvard University Press.
- Vygotsky, L. S. (1998). *The collected works of L. S. Vygotsky* (Vol. 5). New York: Plenum.
- Vygotsky, L. S. (2004). Imagination and creativity in childhood. *Journal of Russian & East European Psychology*, 42(1), 7-97.
- Vygotsky, L. S. (2012). *Thought and language* (E. Hanfmann, Vakar, G. & Kozulin, A., Trans.). Cambridge, Massachusetts: MIT press.
- Wall, D. (2000). The impact of high-stakes testing on teaching and learning: Can this be predicted or controlled? *System*, 28(4), 499-509. doi: 10.1016/s0346-251x(00)00035-x
- Warwick, P., & Chaplain, R. (2013). Research with younger children: Issues and approaches. In E. Wilson (Ed.), *School-based research: A guide for education students* (2nd ed., pp. 59-76). London: Sage.
- Weeden, P., Winter, J., & Broadfoot, P. (2002). *Assessment: What's in it for schools?* London; New York: RoutledgeFalmer.
- Weinstein, C. E. (1994). Strategic learning/strategic teaching: Flip slides of a coin. In P. R. Pintrich, D. R. Brown & C. E. Weinstein (Eds.), *Student motivation, cognition, and learning: Essays in honour of Wilbert J. McKeachie* (pp. 257-273). Hillsdale, NJ, US: Erlbaum.
- Weinstein, C. E., & Acee, T. W. (2013). Helping college students become more strategic and self-regulated learners. In H. Bembennuty, T. J. Cleary & A. Kitsantas (Eds.), *Applications of self-regulated learning across diverse disciplines: A tribute to Barry J. Zimmerman* (pp. 197-236). Charlotte, NC, USA: Information Age Publishing.
- Weinstein, C. E., Acee, T. W., & Jung, J. (2011). Self-regulation and learning strategies. In H. Bembennuty (Ed.), *Self-regulated learning* (pp. 45-53). San Francisco: Jossey-Bass.
- Weinstein, C. E., & Hume, L. M. (1998a). Goal 1: Defining strategic learning. In C. E. H. Weinstein & L. M. Hume (Eds.), *Study strategies for lifelong learning: Psychology in the classroom* (pp. 9-22). Washington, DC, US: American Psychological Association.
- Weinstein, C. E., & Hume, L. M. (1998b). Goal 2: Understanding the categories and characteristics of learning strategies. In C. E. H. Weinstein & L. M. Hume

- (Eds.), *Study strategies for lifelong learning: Psychology in the classroom* (pp. 23-41). Washington, DC, US: American Psychological Association.
- Weinstein, C. E., & Hume, L. M. (1998c). Goal 4: Helping students develop a repertoire of strategies. In C. E. H. Weinstein & L. M. Hume. (Eds.), *Study strategies for lifelong learning: Psychology in the classroom* (pp. 71-94). Washington, DC, US: American Psychological Association.
- Weinstein, C. E., Husman, J., & Dierking, D. R. (2000). Self-regulation interventions with a focus on learning strategies. In M. Boerkaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 728-747). Burlington, USA; San Diego, USA; London: Elsevier Academic Press.
- Whannell, P., Whannell, R., & Allen, B. (2012). Investigating the influence of a teacher on academic self-efficacy and study behaviour of students in a tertiary bridging program. *Australian Journal of Adult Learning*, 52(1), 39-65.
- Wigfield, A., Eccles, J. S., Yoon, K. S., Harold, R. D., Arbreton, A. J. A., Freedman-Doan, C., & Blumenfeld, P. (1997). Change in children's competence beliefs and subjective task values across the elementary school years: A 3-year study. *Journal of Educational Psychology*, 89(3), 451-469.
- Wigfield, A., Klauda, S. L., & Cambria, J. (2011). Influences on the development of academic self-regulatory processes. In B. J. Zimmerman & D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 33-48). New York; London: Routledge.
- Wiggins, G. (1990). The case for authentic assessment. *ERIC Digest*. Washington, DC: ERIC Clearinghouse on Tests, Measurement, and Evaluation. (ERIC Document Reproduction Service No. ED 328 611)
- Wiggins, G. (2012). 7 keys to effective feedback. *Educational Leadership*, 70(1), 10.
- Wiggins, G., & McTighe, J. (2005). *Understanding by design*. Alexandria: Association for Supervision and Curriculum Development.
- Wiggins, G., & McTighe, J. (2008). Put understanding first. *Educational Leadership*, 65(8), 36-41.
- Wiliam, D. (2011). *Embedded formative assessment*. Bloomington, USA: Solution Tree Press.
- Wiliam, D. (2012). Feedback: Part of a system. *Educational Leadership*, 70(1), 31-34.
- Wiliam, D., Lee, C., Harrison, C., & Black, P. (2004). Teachers developing assessment for learning: Impact on student achievement. *Assessment in Education*, 11(1), 49-65.

- William, D., & Thompson, M. (2008). Integrating assessment with learning: What will it take to make it work? In C. A. Dwyer (Ed.), *The future of assessment: Shaping teaching and learning* (pp. 53-82). New York: Lawrence Erlbaum Associates.
- Williams, L. A., & DeSteno, D. (2008). Pride and perseverance: The motivational role of pride. *Journal of Personality and Social Psychology*, 94(6), 1007-1017. doi: 10.1037/0022-3514.94.6.1007
- Willis, J. E. (2010). Assessment for learning as a participative pedagogy. *Assessment Matters*, Vol. 2, 65-84.
- Willis, J. E. (2011). *Towards learner autonomy: An assessment for learning approach*. Doctor of Philosophy Thesis, Brisbane, Australia: Queensland University of Technology. Retrieved 3 December, 2014, from: <http://core.ac.uk/download/pdf/10906911.pdf>
- Wilson, E. (2013). Research design. In E. Wilson (Ed.), *School-based research: A guide for education students* (2nd ed., pp. 79-89). London: Sage.
- Winne, P. H. (2011). A cognitive and metacognitive analysis of self-regulated learning. In B. J. Zimmerman & D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 15-32). New York; London: Routledge.
- Winne, P. H., & Hadwin, A. F. (2008). The weave of motivation and self-regulated learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (2012 ed., pp. 297-314). New York: Routledge, Taylor & Francis Group.
- Winne, P. H., & Stockley, D. B. (1998). Computing technologies as sites for developing self-regulated learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Self-regulated learning: From teaching to self-reflective practice* (pp. 106-137). New York: Guilford Press.
- Witte, S. P., & Faigley, L. (1981). Coherence, cohesion, and writing quality. *College Composition and Communication*, 32(2), 189-204. doi: 10.2307/356693
- Yang, M. & Carless, D. (2013). The feedback triangle and the enhancement of dialogic feedback processes. *Teaching in Higher Education*, 18(3), 285-297.
- Yu, W. M., Kennedy, K. J., Fok, P. K., & Chan, K. S. (2006). *Assessment reform in basic education in Hong Kong: The emergence of assessment for learning*. Paper presented at the 32nd Annual Conference of the International Association for Educational Assessment, Singapore. [http://www.iaea2006.seab.gov.sg/conference/download/papers/Assessment reform in basic education in Hong Kong - The emergence of assessment for learning.pdf](http://www.iaea2006.seab.gov.sg/conference/download/papers/Assessment%20reform%20in%20basic%20education%20in%20Hong%20Kong%20-%20The%20emergence%20of%20assessment%20for%20learning.pdf)

- Zane, T. W. (2009a). Performance assessment design principles gleaned from constructivist learning theory (Part 1). *TechTrends*, 53(1), 81-90.
- Zane, T. W. (2009b). Performance assessment design principles gleaned from constructivist learning theory (Part 2). *TechTrends*, 53(3), 86-94. doi: 10.1007/s11528-009-0287-5
- Zeidner, M., Boerkaerts, M., & Pintrich, P. R. (2000). Self-regulation: Directions and challenges for future research. In M. Boerkaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 749-768). Burlington, USA; San Diego, USA; London: Elsevier Academic Press.
- Ziegler, A., Dresel, M., & Stoeger, H. (2008). Addressees of performance goals. *Journal of Educational Psychology*, 100(3), 643-654. doi: 10.1037/0022-0663.100.3.643
- Ziegler, A., Stoeger, H., & Grassinger, R. (2011). Actiotope model and self-regulated learning. *Psychological Test and Assessment Modeling*, 53(1), 161-179.
- Zimmerman, B. J. (1986). Becoming a self-regulated learner: Which are the key subprocesses? *Contemporary Educational Psychology*, 11(4), 307-313. doi: [http://dx.doi.org/10.1016/0361-476X\(86\)90027-5](http://dx.doi.org/10.1016/0361-476X(86)90027-5)
- Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, 81(3), 329-339. doi: 10.1037/0022-0663.81.3.329
- Zimmerman, B. J. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist*, 25(1), 3.
- Zimmerman, B. J. (1998). Academic studying and the development of personal skill: A self-regulatory perspective. *Educational Psychologist*, 33(2/3), 73.
- Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boerkaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13-39). Burlington, USA; San Diego, USA; London: Elsevier Academic Press.
- Zimmerman, B. J. (2008a). Goal setting: A key proactive source of academic self-regulation. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (2012 ed., pp. 267-296). New York: Routledge, Taylor & Francis Group.
- Zimmerman, B. J. (2008b). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American Educational Research Journal*, 45(1), 166-183. doi: 10.3102/0002831207312909

- Zimmerman, B. J. (2011). Motivational sources and outcomes of self-regulated learning and performance. In B. J. Zimmerman & D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 49-64). New York; London: Routledge.
- Zimmerman, B. J., & Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal*, 31(4), 845-862.
- Zimmerman, B. J., & Kitsantas, A. (2005). The hidden dimension of personal competence: Self-regulated learning. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 509-527). New York: Guilford Press.
- Zimmerman, B. J., & Kitsantas, A. (2014). Comparing students' self-discipline and self-regulation measures and their prediction of academic achievement. *Contemporary Educational Psychology*, 39(2), 145-155. doi: <http://dx.doi.org/10.1016/j.cedpsych.2014.03.004>
- Zimmerman, B. J., & Martinez-Pons, M. (1988). Construct validation of a strategy model of student self-regulated learning. *Journal of Educational Psychology*, 80(3), 284-290. doi: 10.1037/0022-0663.80.3.284
- Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology*, 82(1), 51-59. doi: 10.1037/0022-0663.82.1.51
- Zimmerman, B. J., & Schunk, D. H. (2011). Self-regulated learning and performance: An introduction and an overview. In B. J. Zimmerman & D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 1-12). New York; London: Routledge



