USING DESCRIPTIVE FEEDBACK IN AN ASSESSMENT AS LEARNING CONTEXT FOR CONSTRUCTING THE WAY FORWARD

CHRISTOPHER DAMIAN DINNEEN

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The University of Melbourne
ABSTRACT

This practitioner inquiry study explores the use of descriptive feedback as a means of ‘constructing the way forward’ (Tunstall & Gipps, 1996) for the learning of six students in a Year 2 classroom. The study was undertaken in a large independent school in a Victorian country town.

A qualitative methodology was adopted for the study’s purpose of gaining insights into the interplay of factors that determined the students’ uptake of descriptive feedback. This included their responsiveness to ‘Thinkit-tickets’ – a self-assessment strategy developed by the researcher to promote reflective thinking, and provide evidence of the students’ affective and cognitive responses to their learning. The data collection methods involved: audio-taped semi-structured interviews; audio-taped in situ descriptive feedback conversations with students; non-participant observations conducted by an educational consultant to the school; a teacher journal and students’ written self-reflections (Thinkit-tickets).

The study revealed that unambiguous immediate feedback, learning criteria and understanding the student’s individual perceptions of a given task (Muis, 2007) were key factors in determining the effectiveness of descriptive feedback. Data highlighted the connection between descriptive feedback and the importance of engendering a classroom culture based on dialogic teaching (Alexander, 2003), and reflective thinking (Ritchhart, 2002) for promoting a self-regulated, metacognitive approach to improve their learning. The study also identified the challenge of breaking down the unequal power relationship between the teacher and students in order to facilitate learning through the co-construction of next step actions on the way to achieving specified goals.

In conclusion, the study reiterates the call for further empirical research on the use of descriptive feedback within formative assessment practices (Black & Wiliam, 1998, Brinko, 1993; Hattie & Timperley, 2007; Rodgers, 2006). Recommendations are subsequently made for closer investigations of engaging with dialogic teaching to generate more effective descriptive feedback practices that build learner agency.
DECLARATION OF ORIGINALITY

This thesis does not contain material which has been accepted for any other degree in any university. To the best of my knowledge and belief, this thesis contains no material previously published or written by any other person, except where due reference has been given in the text.

Signature
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The following vignettes retrace two personal formative learning experiences that shaped my ideas about being a teacher and a learner. Although unaware at the time, these stories formed the seed from which this study grew.

**Vignette 1**

In 1973 my Year 3 teacher introduced the procedure for adding and subtracting equivalent fractions. Until that point I thought I could ‘do’ maths, but for the first time I felt out of my depth, and no matter how hard I tried, I simply couldn’t grasp the process of equalizing the denominators in order to complete the equations. To compound matters even further, it seemed to me that my friends were coping well and progressing to more challenging problems. I was languishing. I wanted my teacher to notice me and provide help. I wanted her to say, ‘How are you going?’ ‘What do you need?’ and ‘What part don’t you understand?’ This didn’t occur and I didn’t have the capacity or agency to redress the situation.

**Vignette 2**

In 1982, I was gazing towards the window contemplating the steps involved for solving simultaneous linear equations, and more broadly, what I needed to do to pass General Maths for my Higher School Certificate (HSC). I had a shaky grasp of the curriculum and knew that I was in danger of failing the subject. My thoughts were swirling and my anxiety was growing. I was jolted from my angst by the sharp, public and humiliating words, ‘How do you ever expect to learn by looking out the window?’ The teacher did not understand that I did want to improve, and show that I was indeed a capable student. At that point I realized I had little chance of receiving the assistance or feedback I required and my trust disintegrated. I failed dismally.

These two vignettes created an indelible imprint on my memory and they have informed and influenced my interactions with students ever since. Throughout my formation as a teacher the following questions: ‘When was I empowered as a learner?’; ‘When was I disempowered?’; and ‘What were the key contributing factors?’ have formed a familiar reflective script over many years. My subsequent inclination as an ongoing learner has been to seek and provide formative assessment feedback that is descriptive rather than evaluative; the embodiment of which is exemplified in the questions I wanted my Year 3 teacher to ask me. Such questions are in fact
invitations to engage in descriptive feedback conversations for the purpose of co-constructing next-step actions and building learner agency. In order to achieve this outcome, teachers are required to *sit beside* students to discuss their affective responses to tasks and determine their progress towards attaining designated learning goals. Indeed, the term assessment is derived from the Latin verb assidere which means to *sit beside*.

The more I reflected on my ability to sit beside students and provide effective feedback the clearer I became in my resolve to augment my living theory of teaching and learning (McNiff & Whitehead, 2006) in relation to formative assessment practices and pursue research literature in this area. In my early search for more information I was introduced to the ‘Black Box’ articles by Black and Wiliam (1998, 2003) which in turn resulted in my enrolment at Harvard University’s Project Zero Summer School in 2007. The courses I undertook were connected by a common thread of linking Teaching for Understanding (Blythe, 1998) with a focus on effective assessment strategies for deepening students’ learning and improving their metacognitive (Ritchhart, 2002) and self-regulatory abilities (Zimmerman, 2002). Another major influence in deciding to pursue further study was my involvement in the Ithaka Project developed by Dr Julie Landvogt (2003-2009). The Project ran for six years and explored Ritchhart’s theory (2002) of intellectual character through the notion of six thinking dispositions. The professional development and collegiality engendered through this unique initiative of combining ongoing practitioner research, reflective practice, professional reading, seminars and conferences gave rise to a dynamic learning community of teachers from schools across the state of Victoria. Throughout this affiliation I refined my ideas about formative assessment and narrowed my scope to concentrate my use of descriptive feedback (Rodgers, 2006; Tunstall & Gipps, 1996) within the reflective context of Assessment as Learning (Earl, 2005).
CHAPTER 1 : BEGINNING THE THESIS

1.1 Introduction : Pursuing my living theory

The personal theories I have developed about teaching and learning provoked a desire to further investigate the assessment strategies and approaches I use in the classroom. Hence, the purpose of this practitioner inquiry is to explore the effectiveness of descriptive feedback I provide to my Year 2 primary school students and identify the elements of my feedback that either facilitate or hinder their learning. This chapter commenced with the prologue vignettes and a reflection of the provocations that formed the impetus for this research. The sections that follow describe the study’s context, with a particular focus on the current trends in assessment practice. The significance of this study is then explored, followed by a description of the study’s purpose, aims and questions. The chapter concludes with an overview of the thesis.

1.2 The context: Establishing a formative assessment foothold

The terms formative assessment and summative assessment are used widely by teachers and feature extensively in academic literature and teacher references. While both forms of assessment constitute integral elements of the teaching and learning process the nature, form and purpose of their implementation differ significantly. Teachers may choose to assess summatively in order to gather information for the purpose of measuring student achievement against specified standards. The results can then be used to inform coordinators, policy makers, teachers, parents and students about individual or group levels of achievement (Chappuis, Chappuis & Stiggins & DuFour, 2009). By contrast, when teachers formatively assess they seek to identify the students’ understanding to inform their instruction. Through a formative approach to assessment problems are clarified along the way; student self-regulation is encouraged and decisions about future learning are constructed based on the assessment evidence obtained. Formative assessment informs teaching and is used to find out if the student ‘can do’ as opposed to what the student ‘can do’ (Torrance & Pryor, 2001). A more comprehensive description of these key terms and others including Assessment as Learning, authentic assessment, feedback and descriptive feedback are covered in Chapter 2.

In recent decades, the theoretical and empirical evolution of formative assessment has indicated its ‘coming of age’, particularly through Black and Wiliam’s seminal study which resulted in the Black Box articles (1998, 2004). However, benchmarks of successful learning based on state,
national and international test scores still dominate when decisions are made about education provision, at both school and governmental levels (Black & Wiliam, 1998, 2009; INCA, 2010; Matters, 2006; OECD, 2005; Rowe, 2005; Griffin, Woods, & Cuc, 2005). This can, and does, create conflict for teachers, many of whom subscribe to a constructivist ideology but practice in a system dominated by outcomes- and standards-based curricula and national test scores. Pryor and Crossouard (2008) concur stating, “…much teaching at whatever level still assumes a model of education as knowledge transmission and acquisition, with formative assessment conceptualized as a largely instrumental adjunct or ‘quick fix’ to educational problems” (p. 3).

Pryor and Crossouard’s (2008) finding adds support to the relevance of this study which seeks to establish sound formative assessment practices in the everyday classroom learning experiences of the students I teach. Black and Wiliam (1998) also address the issue of the marginalized profile of formative assessment when compared to the summative assessment practice of teachers in schools.

While teachers’ contributions to ‘summative assessments’ have been given some formal status, hardly any attention has been paid to their contributions through formative assessment. Moreover, the problems of the relationship between formative and summative assessment roles have received no attention. (p. 5)

By and large, a paucity of formative assessment practice still exists in schools. Summative assessments predominate in many schools for measurement and reporting purposes, despite the literature’s recognition of the potency of formative assessment for improving learning (Black & Wiliam, 1998; Hattie, 2003; Hattie & Timperley, 2007), which according to Wiliam can “double the speed of student learning” (p. 36, 2008).

The need for developing a comprehensive approach to formative assessment in schools is highlighted in the recent Cambridge Primary Review (2009) – a far reaching investigation into the condition and future of Primary education in the United Kingdom – which compiled 75 recommendations for widespread educational reform. A major plank of the Review’s reform focused on increasing meaningful teacher assessments and ‘uncoupling’ such information from high stakes tests which continue to dominate the English Primary curriculum and narrow its focus.
Earl’s study (2003) identified descriptive feedback as an important aspect of formative assessment. Features include: questioning students about their understandings; reflecting with students on their progress; and discussing next step actions to improve their learning. Earl classifies this descriptive feedback as Assessment as Learning. In an Assessment as Learning context descriptive feedback becomes an integral part of the teaching process. The feedback elicits the students’ thoughts, feelings and apprehensions about their learning in order to move closer to clearly defined learning goals. Feedback of this nature is founded on trust and generated through reciprocal feedback conversations aimed at exploring students’ affective and cognitive responses to their learning (Brookhart, 2007; Rodgers, 2006). Assessment as Learning elevates students as active and involved agents in their own performances and designates teachers in part, as facilitators of this process (Earl & Katz, 2005; Gardner, 2006; Rodgers, 2006.) Such interactions may contrast with students’ previous experiences of classroom learning where teachers are often perceived as, and assume the role of, transmitters of knowledge.

It is Rodger’s (2006) work on descriptive feedback that provoked my interest and led to the practitioner inquiry approach undertaken for this study as a means of exploring the effectiveness of my use of descriptive feedback with the Year 2 students I teach. The study is also informed by the works of Black and Wiliam (1998, 2006), Tunstall and Gipps’ (1996) inventory of feedback types and their impact on learning and Earl’s (2003) theoretical and practical underpinnings of Assessment as Learning.

1.3 Purpose and aims

The primary purpose of this study is to explore the students’ personal experiences of receiving descriptive feedback aimed at constructing the way forward (Tunstall & Gipps, 1996). According to Earl (2003), descriptive feedback makes “explicit connections between student thinking and other possibilities that the students should consider” (p. 90). It is hoped that this study will provide useful insights into the effectiveness of my use of feedback in facilitating student learning and promoting student engagement through dialogue aimed at promoting self-regulatory and reflective thinking.
Therefore the explicit aims are:

- to investigate student responses to receiving descriptive feedback;
- to develop feedback which students identify as helpful and unhelpful for their learning; and
- to refine the use of descriptive feedback in my Year 2 class as a means of constructing the way forward (Tunstall & Gipps, 1996) that supports student learning and informs practice.

The key research question that guides this study is:

How effectively does my use of descriptive feedback support learners in ‘constructing the way forward’ (Tunstall & Gipps, 1996) in an Assessment as Learning context?

Sub-questions that support the key question are:

- What are the defining features of my descriptive feedback dialogue?
- What factors influence the take up of my descriptive feedback?
- What evidence is there that descriptive feedback ‘constructs the way forward’ (Tunstall & Gipps, 1996) for the students learning?

These questions are intended to be transformative. They have been posed in order to seek answers which to lead to action. McNiff and Whitehead (2006) ask, “Do we transform our learning into new learning and new practices that will benefit ourselves and others?” (p.3). It is my hope that this study can illuminate the issues and assumptions that I have generated about feedback and assessment and construct a way forward for my own pedagogy.

The questions are linked to the aims of this study in that they seek to identify the discrete elements and features of descriptive feedback in practice, and explore their effectiveness as revealed through the data analysis. The questions are intended to probe the students’ experiences in an attempt to expose aspects of the feedback that hinder or assist learning from the students’ point of view.

While the literature continues to grow in regard to assessment and the importance of feedback for improving learning (Black & Wiliam, 1998; Earl, 2003; Hattie, 2003; Heritage, 2007; Pryor & Crossouard, 2008; Rodgers, 2006), this topic remains a relatively new area of study and one that is open for further exploration (Tunstall & Gipps, 1996).
1.4 The significance of this study

The introduction of the Australian Curriculum has heralded a new era in education with Stage One of the consultation process in English, Mathematics, History and Science, now complete. For the first time all states and territories will educate primary and secondary school students from the same curriculum blueprint. This presents a unique opportunity for developing and promoting a cohesive approach to formative assessment as teachers nationwide, unpack the curriculum and align their programs and pedagogy to the new, national framework for teaching and learning.

The significance of this study can be found in its focus on the reflections of young children as they look back on their learning in order to identify the productive (and unproductive) aspects of their decision-making, and nominate the ‘hard parts’ of the tasks that obstruct their progress. Much has been written about the power of feedback for improving learning (Black & Wiliam, 1998, 2007; Hattie & Timperley, 2007; Earl, 2003), however, the research is predominantly focused on students in the middle to upper Primary School years and above. There is little literature available, especially in Australian settings, with a distinct focus on descriptive feedback as a catalyst for improving student performance in the junior years of schooling.

By undertaking this practitioner inquiry I hope to improve my knowledge of formative assessment and the associated strategies critical to its implementation in the classroom. It is also hoped that the findings will contribute to the body of empirical research based on the conception of reflective learning, known as Assessment as Learning.

1.5 Study overview

Chapter 1 explored the study within the context of my living theory of productive pedagogical practice and accrued experiences of reflective learning. Local and global trends in assessment were cited which provoked this research, followed by a statement of the purpose and aims of the study. The chapter concluded with a discussion of the significance of the study.

Chapter 2 defines the key assessment terms and identifies the central components of formative assessment and descriptive feedback. Cognitive and social constructivist theories are discussed in relation to how they inform current approaches to teaching, and the challenges of implementing formative assessment with the current emphasis on high stakes testing.
Chapter 3 justifies the use of practitioner research based on the action reflection model (Mcniff & Whitehead, 2006) for investigating the question and aims of the study. Methodological congruence is sought by matching the aims, purpose and methods chosen for this research project. Ethical issues and limitations are described and the imperative of trustworthiness is addressed through the notions of validity and reliability.

Chapter 4 presents the findings and analysis of the information gathered and coded from the various data sources. The major themes and patterns to arise from the concurrent flows of activity (Miles & Huberman, 1994) are described in relation to the key question and sub-questions, which are derived from the observations, conversations and written reflections collected throughout the study.

Chapter 5 discusses the significance of the key findings and their relevance to a classroom culture dependent on dialogue for supporting and guiding student learning. The literature is re-examined for insights, verifications and points of departure for major themes.

Chapter 6 provides a personal reflection on the insights gained from undertaking this study and a summary of responses to the research questions. The key findings are presented followed by the implications for my practice and suggestions for further research.
CHAPTER 2 : LITERATURE REVIEW

‘In this life, we want nothing but the facts, sir, nothing but facts!’ The speaker, and the schoolmaster, and the third grown person present, all backed a little, and swept with their eyes the inclined plane of little vessels arranged in order to have imperial gallons of facts poured into them until they were full to the brim.
(Source: Charles Dickens Hard Times Chapter 1)

2.1 Introduction

In the Dickensian era, assessments most likely consisted of tests to measure students’ knowledge of pre-determined facts and figures reflective of a banking model of education (Freire, 1972). A much more expansive conception of assessment in education has evolved since Dickens’ Hard Times. This literature review commences with an exploration of the concepts, terminology and key terms that are currently associated with assessment and feedback. The chapter includes a discussion of constructivist learning theories and their embodiment of feedback and metacognition as essential practices for improving student learning. Assessment trends throughout the last two decades in Australia are then identified. The chapter concludes with a synthesis of formative assessment and the feedback process in teaching and learning.

2.2 Terms of Assessment

Assessments, in their multifarious uses and forms, play a pivotal role in many occupations, work places and acts of human endeavour. The scope of this review, however, does not warrant such a broad investigation and will confine its focus to the primary years of education. It is interesting to note, however, that the vast majority of people under 50 years of age undertook their inaugural assessment within the first moments of life (Athanasou & Lamprianou, 2002). The Apgar test, devised by Dr Virginia Apgar in 1952, assesses five vital modalities of newborn babies, such as: heart rate; respiratory effort; muscle tone; reflex irritability; and colour and is administered immediately after birth. It appears that, even from the first moments of life, assessments play a pivotal role in monitoring and measuring human responses and capabilities.

More recently, the term assessment has replaced evaluation when referring to student monitoring and testing. Although both terms have been used interchangeably McTighe and Wiggins (2006) argue that an evaluation carries the connotation of a value or grade attributed to a student’s performance whereas an assessment does not necessarily connote a judgment, formal or otherwise. The more prevalent use of assessment over evaluation is a recent development.
Bloom (1971) makes no mention of assessment in his eminent publication *Handbook of formative and summative evaluation of student learning*. His preference for the term evaluation reflects its more common usage at the time. Bloom defines evaluation as, “The systematic collection of evidence to determine whether in fact certain changes are taking place in the learners as well as to determine the amount or degree of change in individual students.” (1971, p.8)

The preponderance of research literature and the ensuing debates over the last 20 years has resulted in much greater scrutiny over the properties, purposes, uses and formats of assessment designs. Cizek (1997) argues that:

> The term assessment has been cast about so routinely in recent educational discussions, debates and deliberations, it would seem that everyone knows what assessment is. Such an assumption is probably incorrect… it is used in so many different ways, in so many different contexts and for so many different purposes, that it can mean almost everything. (p.8)

While Cizek’s emphatic view provides some insights into the intense interest generated around this topic. The now highly recognised dichotomy of assessment into the categories of *formative* (assessment that happens during learning), and *summative* (assessment that happens at the end of learning) and the additional trichotomy of formative assessment into the areas of Assessment of Learning, Assessment for Learning and Assessment as Learning (Earl, 2003) does add some weight to Cizek’s argument. Figure 2.1 provides a visual representation of my understanding of teachers’ broad conception of these categories. A short coming of this conception and the general acceptance of such a dichotomy, however, is the proposition that summative assessments can be used formatively as stated in Chapter 1 (Black & Wiliam 1998a).

![Figure 2.1 Assessment categories and sub-categories](image-url)
Matters (2006) adds some levity to this situation in her parody of Churchill’s 1940 speech to the House of Commons. She writes, “Never in the field of educational assessment was so much written, by so many, about so few prepositions” (p. 25).

2.3 Authentic assessment

More recently, the debate in relation to assessment promotes both formative and summative approaches for gathering information about student learning, with a strong emphasis on authenticity (McTighe & O’Connor, 2006; Roberts & Inman, 2007). Wiggins and McTighe state, “The heart of authentic assessment is realistic performance-based testing – asking the student to use knowledge in real-world ways with genuine purposes, audiences and situational variables” (2006, p. 337). Students engaging in assessment tasks of this nature are provided with opportunities to demonstrate their understanding of core ideas and skills in performances that extend beyond the basic recall of facts or replication of previously displayed skills. Instead, the replication may be exhibited in the solutions to contextualised real world problems that require a transfer of prior knowledge or skills. Furthermore, authentic assessment takes into account the students’ strengths and weaknesses while identifying cultural and socio-economic factors that may impinge on a student’s ability to meet specified outcomes (Dillon, 2000). Hence, the concept of authenticity in assessment also takes into account student capabilities along with curriculum requirements to ensure valid representations of students’ knowledge and understanding. Authenticity in assessment is achieved when teachers plan assessment tasks that are inclusive and accessible to all students, transparent in purpose, relevant and useful for informing the next stage of teaching (Edwards-Groves, 2003).

2.4 Arriving at a definition of assessment

To this point I have endeavoured to highlight some key changes that have occurred in the broad and complex field of assessment over recent decades. In summary, these include: the shift in terminology from evaluation to assessment; the increased awareness of formative assessment and its associated nomenclature; and the recent emphasis on authentic assessment practices.

It is timely therefore, to consider a definition of assessment for the purpose of this study that encompasses the basic tenets of both formative and summative assessment practice. Black and Wiliam (1998) provide a broad description that takes into account the dynamic nature of this
endeavour and incorporates Harlen’s (2007) components and variables of an assessment system (see Table 2.1). They state:

We use the general term assessment to refer to all those activities undertaken by teachers – and by their students in assessing themselves – that provide information to be used as feedback to modify teaching and learning activities. (p. 135)

Bloom’s (1971) view of evaluation, as noted earlier, has been extended in this description with the addition of concepts such as self-assessment, feedback, and modification to teaching and learning activities. This description aligns comfortably with beliefs about the nature of assessment in a classroom setting (Brookhart, 2008; Chappuis et al., 2009; Earl, 2005; Stiggins, 2007), and makes clear reference to feedback and its role in the development of teaching and learning experiences, which forms the cornerstone of my research. This definition encompasses the term formative assessment which is a key component of this study.

2.5 Interchangeable terms: formative assessment and Assessment for Learning

Generally, the research literature does not differentiate between formative assessment and Assessment for Learning, with the exception of Black, Harrison, Lee, Marshall and Wiliam (2003). The previous definition by Black and Wiliam (1998) highlights feedback as a major catalyst for the ongoing formation of the teaching and learning experience. Black, et. al (2003) expand on the function and importance of feedback and in the process provide a clear distinction between formative assessment and Assessment for Learning.

Assessment for learning is any assessment for which the first priority in its design and practice is to serve the purpose of promoting pupils’ learning…An assessment activity can help learning if it provides information to be used as feedback by teachers, and by their students in assessing themselves and each other, to modify the teaching and learning activities in which they are engaged. Such assessment becomes formative assessment when the evidence is used to adapt the teaching work to meet learning needs. (p. 2)

Recently, Wiliam (2009) voiced concerns about the interchangeable use of the two terms, emphasizing again that Assessment for Learning pertains to the purpose of such assessments whereas the formative assessment is concerned with the function served by the information and feedback obtained through various assessment activities. Thus the purpose of Assessment for Learning is to advance student learning by feeding back assessment information to the student
while the function of the feedback serves to inform and guide the next stage of the teaching and learning process in direct response to the information gathered about the student’s performance.

Black and Wiliam’s contribution towards raising the profile of formative assessment as a means of achieving improved learning has been notable. Their 1998 article titled *Inside the Black Box* received wide recognition for the breadth of the research and its subsequent recommendations regarding the systematic implementation of formative assessment practices in schools. Their meta-analysis which covered 580 articles, 160 journals and numerous books spanning nine years of publication concluded:

> There is a body of firm evidence that formative assessment is an essential part of classroom work and that its development can raise standards of achievement. We know of no other way of raising standards for which a strong prima facie case can be made. (Black & Wiliam, 1998, p.148)

The cornerstone of Black and Wiliam’s extensive meta-analysis of the literature was based on three key questions: They postulated:

- Is there evidence that improving formative assessment raises standards?
- Is there evidence that there is room for improvement?
- Is there evidence about how to improve formative assessment?

(Black & Wiliam, 1998, p. 149)

The authors argued in the affirmative for each question, impelling government agencies, researchers and school leaders to work together to ensure a cohesive development of, and unified approach to, formative assessment practice in classrooms. The major elements of this approach include:

- providing regular feedback to students formulated on clearly defined goals and success criteria;
- using assessment information to review and adapt learning experiences;
- incorporating self- and peer assessment as an integral part of lessons;
- recognising the importance of engagement and motivation for achieving success; and
- developing students’ self-regulatory capabilities and metacognitive thinking

(Black et al., 2004)
The Assessment Reform Group (ARG), established in the United Kingdom in 1989, played a major role in informing the educational community and policy makers about the research evidence in support of assessment for learning to improve student achievement. It advocates ten principles of Assessment for Learning

1. is part of effective planning;
2. focuses on how students learn;
3. is central to classroom practice;
4. is a key professional skill;
5. has an emotional impact;
6. affects learner motivation;
7. promotes commitment to learning goals and assessment criteria;
8. helps learners know how to improve;
9. encourages self-assessment; and
10. recognises all achievements

(ARG, 2002)

While the ARG’s principles of Assessment for Learning provide a substantive body of knowledge on the subject of formative assessment, the literature is often directed towards teacher implementation of formative assessment. Since the ultimate users of formative assessment advice are students (Black & Wiliam, 1998; Stiggins, 1997), it is worth considering formative assessment from their point of view. Atkin, Black and Coffey (2001) offer a valuable, three-part self-regulatory prompt for students and teachers to consider when adopting a formative approach to assessment in the classroom:

Where am I trying to go?
Where am I now?
How can I get there?

Bearing in mind that formative assessment is something that teachers and students do together, the guidance provided by these self-regulatory questions draws from the aforementioned ARG’s principles, implicating collaboration, clearly defined lesson criteria, self-assessment and increased agency through supported learning, as integral components of the three question stems.
In presenting formative assessment in this way I am seeking to demonstrate my support for this concept as a process of co-inquiry rather than one of measurement.

2.6 Assessment as Learning

Assessment as Learning promotes students as active and engaged agents in their own learning by assessing their performances as they go. Victorian Essential Learning Standards (VELS) states that the purpose of Assessment as Learning is “to provide opportunities for student reflection and/or self-assessment to support future learning” (RMIT, 2005, p. 15).

The term was initially conceived by Lorna Earl in 2003 and has become a common feature of the assessment lexicon in Australia and overseas. A central tenet of Assessment as Learning is the prioritisation of the student’s point of view in relation to their progress and performance. (Learning Policies Branch, 2005). In Assessment as Learning, students link prior knowledge, feedback and self- and peer-assessment to make decisions about what to do next (Earl, 2005; McMillan, 2007). This aspect of promoting self-reflection so that students continually monitor their learning and thinking (metacognition) distinguishes Assessment as Learning from its formative counterpart namely, Assessment for Learning (see Table 2.2 for comparison). Earl (2003) describes the benefits of Assessment as Learning in terms of its potential to empower students to regulate and direct their learning in a way that they may not have previously encountered. Earl (2003) states:

Students use Assessment as Learning to gain knowledge about their progress, show milestones of success that are worthy of celebration, adjust their goals, make choices about what they need to do next to move learning forward and advocate for themselves. (p.47)

The focus on the student in Assessment as Learning in no way diminishes the role of the teacher. On the contrary, the teacher in this context actively promotes a learning culture that embraces the notion of critical self-analysis and provides time and supportive models which allow students to review their performance and plan the next steps for achieving their goals (Earl, 2005). Table 2.2 provides a comparison of the descriptors that distinguish Assessment as Learning from Assessment for Learning and delineates the role of the teacher in each process.
Assessment Descriptors:

<table>
<thead>
<tr>
<th>Why Assess</th>
<th>Assessment for Learning</th>
<th>Assessment as Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>To enable teachers</td>
<td>To enable teachers to determine next steps in advancing student learning</td>
<td>To guide and provide opportunities for each student to monitor and critically reflect on</td>
</tr>
<tr>
<td></td>
<td></td>
<td>their learning and identify next steps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess What</td>
<td>Each student’s progress and learning needs in relation to the curricular outcomes</td>
<td>Student’s thinking about their learning, the strategies used to support or challenge the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>learning and the mechanisms they use to adjust and advance their learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What Methods</td>
<td>A range of methods in different modes that make students’ skills and understandings</td>
<td>A range of methods in different modes that elicit students’ learning and meta-cognitive</td>
</tr>
<tr>
<td></td>
<td>visible</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>processes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensuring Quality</td>
<td>Accuracy and consistency of observations and interpretations of student learning</td>
<td>Accuracy and consistency of student’s self-reflection, self-monitoring and self-adjustment</td>
</tr>
<tr>
<td></td>
<td>Clear, detailed learning expectations</td>
<td>Engagement of the student in considering and challenging his or her thinking</td>
</tr>
<tr>
<td></td>
<td>Accurate detailed notes for descriptive feedback to each student</td>
<td>Students record their own learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using the Information</td>
<td>Provide each student with accurate descriptive feedback to further his or her learning</td>
<td>Provide each student with accurate, descriptive feedback to help them develop independent</td>
</tr>
<tr>
<td></td>
<td>Differentiate instruction by continually checking where each student is in relation to</td>
<td>learning habits</td>
</tr>
<tr>
<td></td>
<td>the curriculum outcomes</td>
<td>Have students focus on the task and their learning (not on getting the right answer)</td>
</tr>
<tr>
<td></td>
<td>Provide parents or guardians with descriptive feedback about student learning and ideas</td>
<td>Provide students with the ideas for adjusting, rethinking and articulating their learning</td>
</tr>
<tr>
<td></td>
<td>for support</td>
<td>Provide the conditions for the teacher and student to discuss alternatives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students report about their learning</td>
</tr>
</tbody>
</table>

Table 2.1 Assessment Descriptors of Formative Assessment (Harlen, 2007)

The descriptions listed in Table 2.1 are central to this study. Data will be collected in relation to the actions students take throughout the iterative process of providing feedback and enacting a course of self-reflection, self-monitoring, and self-adjustment.

2.7 Feedback

The strategic, timely and specific use of feedback to improve learning is a pre-eminent feature of the Assessment as Learning framework. The topic of feedback in education is another burgeoning area of research. Not surprisingly, its notable rise in profile is concomitant with the
interest generated around the topic of formative assessment. Invariably, the literature incorporates references to feedback as an integral component of the assessment process (Black & Wiliam, 2009; Brookhart, 2008; Hattie & Timperley, 2007). The parameters of this review do not permit a comprehensive overview of the various forms and categories of feedback. However, a general description of the feedback type specific to this study is outlined in section 2.10. Feedback, for the purposes of this study, refers to the verbal and written exchanges that occur between teachers and students in relation to the students’ classroom learning. Winne and Butler (1994) specify other features of feedback that illuminate its generative properties in a teaching and learning context. They assert that “Feedback is information with which a learner can confirm, add to, overwrite, tune or restructure information in memory, whether that information is domain knowledge, meta-cognitive knowledge, belief about self and tasks, or cognitive tactics and strategies” (p.82).

Winne and Butler’s (1994) support for the meta-cognitive and self-regulatory components of feedback in their definition is significant as these concepts are also integral to this study and will be explored in more detail later in the review. Guiding principles for feedback include clear, descriptive and criterion based information that the teacher and student can use to improve learning experiences (Heritage, 2007; Black, 1998). The reciprocal nature of the feedback is important and this highlights a deficiency in Winne and Butler’s definition. Reciprocity is an essential aspect of feedback – more specifically “The feedback is both to the teacher and to the students” (Gardner, 2006, p.104). The interactivity between the teacher and student, in the course of a reciprocal feedback loop and the subsequent outcomes, are also directly related to this research.

2.8 Descriptive feedback

Developing an understanding of the nature, purpose and practice of descriptive feedback is a core feature of this study. Tunstall and Gipps (1996) hold the view that assessment feedback exists on an evaluative-descriptive continuum. An evaluative approach provides feedback that contains positive or negative judgments about a student’s performance. Evaluative feedback also draws attention to the conative (effort and dedication) aspects of the student’s behaviour. For example: ‘I am very pleased with you today.’ or ‘You weren’t paying attention when I explained that, were you?’ Evaluative feedback is also synonymous with the provision of grades or marks
as a measure of student achievement. At the other end of the continuum, descriptive feedback focuses on student competence and is directed at improving achievement. The feedback is often referenced against criteria, exemplars and models provided to support student learning. It directly addresses the level of student attainment in relation to these scaffolds. Tunstall and Gipps (1996) maintain that descriptive feedback is closely linked to formative assessment in that it provides information to the teacher and student about progress towards a specified goal or successful completion of a task. Rodgers (2006), however, takes a different perspective by eschewing the notion that descriptive feedback is aimed solely at achieving learning goals or formatively gathering data as evidence of learning. Rather, Rodgers emphasizes the discursive and dialogic components of descriptive feedback, particularly when it is expressed by the student and recounts the affective experience of a learning episode or task. She states:

Descriptive feedback is neither in-the-moment constructivist information gathering nor is it a formalized data gathering process. It is, rather, a reflective conversation between teacher and students wherein students describe their experiences as learners, with the goals of improving learning, deepening trust between teacher and student, and establishing a vibrant, creative community on a daily basis. (2006, p. 209)

The views of Rodgers and Tunstall and Gipps are not mutually exclusive, nor for that matter oppositional. However, they offer divergent conceptions about the nature of feedback and its intended purpose. The student–teacher dialogue, centred on the experience of learning, is the critical defining feature of descriptive feedback for Rodgers, particularly when it is placed within a broader context of reflective practice. Tunstall and Gipps (1996) recognize the centrality of this idea but situate the reflective dialogue in direct reference to the student’s performance and the steps that might be taken to enhance future efforts. It is feasible to subscribe to a revised conception of descriptive feedback that incorporates Rodger’s elements of reflective dialogue and Tunstall and Gipp’s conception tied to a personalized level of achievement. In practice, an affiliation of this nature could indeed be more advantageous to student learning than adopting either approach exclusively. Earl and Katz support this view, stating:

Effective feedback challenges ideas, introduces additional information, offers alternative interpretations and creates conditions for self-reflection and review of ideas. It provides students with information about their performance on a task and how they could come to the conclusions on their own. (2005, P. 47)
Earl and Katz go further by pointing to the foreseeable limitations of feedback that provides direction for what students need to do next. In so doing, students may be disposed to adopt an attitude of learned dependence where they ask *Is this right?* or *Is this what you mean?* (2005). The issue of who supplies the descriptive feedback is one that also requires some clarification. Rodgers (2006) is unequivocal on this point and proffers, “With descriptive feedback, the teacher asks the questions to which she has no answers and has formed no preconceived evaluation” (p. 214).

The role of the teacher, according to Rodger’s description, is that of an interviewer and listener. Questions that elicit a description of the learning experience from students could include: *What did you learn?*; *What helped your learning?*; and *What did you find challenging?* The teacher provides opportunities for descriptive feedback and facilitates the conversation by probing students for reflective responses. The broader conception of descriptive feedback, which accommodates Gardner’s (2006) notion of reciprocity, becomes clearer with the use of such questioning. In this expanded view the teacher has the opportunity, if not the responsibility, to provide advice for corrective action (Chappuis, 2005) and draws to the students’ attention the processes or strategies they used (and didn’t use) in their learning (Brookhart, 2008). Descriptive feedback of this nature combines the reflective aspect of the student’s experience with the observations and learning support a teacher should seek to provide.

### 2.9 Cognitive and social constructivist theories of learning

The focus of this study on formative assessment and more specifically, descriptive feedback that seeks prior knowledge for directing the next stage of learning, aligns itself with constructivist theories of learning. Socio-cultural theorization recognizes the interdependence of the social context that frames the educative and life experiences through which people derive meaning. The Assessment and Reporting Unit’s Learning Policies Branch (2005) states that new understandings about learning have had a significant impact on teaching and learning, particularly in regard to assessment. The Branch reports:

> Assessment in a constructivist and socio-cultural view of learning is reflected in a contextual-qualitative paradigm. This approach contributes to an assessment culture that embeds assessment in the teaching and learning process and focuses on the assessment of the process of learning in addition to that of its products. (p.3)
The growth in research, literature and policy development surrounding the broad concept of formative assessment would be difficult to sustain if it were not for the developments in cognitive psychology and the general acceptance of constructivist theories of learning (McMillan, 2007; Torrance & Pryor, 2001). This review does not permit an in-depth treatment of these theories, however it is necessary to identify, albeit briefly, the essential tenets of constructivist and socio-cultural theories and their connection to formative assessment.

Constructivist theories of learning developed in the 1960s gained prominence through the rise in popularity of cognitive psychology and the work of noted theorists such as Piaget, Chomsky and Gardner (Marzano, 2005; James, 2006). Herman, Aschbacher and Winters (1992) outline seven major elements of a constructivist approach to learning which connect with this study’s focus on ascertaining what students can do and the learning support they need to progress further (Vygotsky, 1986). These elements purport that:

1. new knowledge is constructed from previous knowledge;
2. learning is not a linear process. All ages can think and problem solve;
3. great variation exists in learning styles, memory and intelligence and explicit knowledge of goals, expected performance and exposure to models assists performance;
4. self-management assists the learning process which involves an awareness of when to use knowledge and how to adapt it;
5. successful learning experiences are attributable to motivation and self esteem; and,
6. learning occurs in a dynamic social and cultural context.

The final element in Herman et al.’s list implicates the broad socio-cultural theory of learning generally attributed to Bakhtin (1981), Rogoff (1990) and Vygotsky, (1986). This theory asserts that children develop higher order cognitive and communicative skills not in isolation, but through their interactions with others, objects and the environment, and what others do and say (Bourdage-Reninger & Rehark, 2009). In this study the interplay of these components is evident, with a particular emphasis on the use of dialogue for promoting student learning (Bakhtin, 1981). The feedback conversations are implemented for the explicit purpose of surfacing and extending student thinking to improve learning.
McMillan (2007) argues that assessments conducted in situ to assist teachers’ decision-making and to engage students in their thinking, are consistent with cognitive theories of learning. Klenowski (2004) provides further detail in his statement about the compatibility of constructivist theory and formative assessment.

The constructivist educator creates a learning environment that incorporates opportunities for analysis of learning; teacher–facilitated learning, group and pair work; student teacher dialogue about the student’s learning; and consistently available support and collaboration. Teachers need to understand and be informed about how this important shift in their roles, brought about by insights from learner theory, takes place for formative assessment to achieve its purpose. (p. 217)

Black and Wiliam (2006) support the alignment of formative assessment and constructivist theory by recognizing the influential importance of prior learning on new learning. In their view, the blend of teaching and formative assessment serves to elicit students’ mental models for making, understanding and applying concepts in creative ways that achieve desired learning goals.

Support for the socio-cultural and constructivist views of learning does not preclude teachers from adopting a behaviourist paradigm when matching assessment to learning. Valid arguments can be mounted for an eclectic approach, particularly when one takes into account the expansive and complex nature of teaching and learning. So whilst this study is grounded in constructivist theory, it also accords with James’ (2006) view that ‘fitness for purpose’ should be a key consideration, and any judgments teachers make about assessment practice should be informed by research and accepted as educationally sound.

2.10 Descriptive feedback and metacognition

It has been widely acknowledged that not all forms of feedback prove effective, indeed some types are counterproductive to learning (Brinko, 1993; Brookhart, 2008; Hattie & Timperley, 2007; Perkins, 2003; Tunstall & Gipps, 1996). It is also true that feedback may simply be ignored by those for whom it is intended (Draper, 2009). An important consideration for this study is the effectiveness of my use of descriptive feedback to students. What students do with the feedback they have generated from their self-reflections or received from the teacher will depend heavily on the effectiveness of their metacognitive and self-regulatory processes. The focus on metacognition, has steadily increased since the late 1970s (Zimmerman, 2002) and is
another area of research that has grown in recent times. It is not within the scope of the literature review to discuss metacognition in detail, however its relevance to this study requires consideration given the correlation between Assessment as Learning and self-reflection, self-monitoring and self regulation, which fall within the meta-cognitive construct. Earl and Katz (2005) state that, “Assessment AS Learning focuses on students and emphasizes assessment as a process of metacognition (knowledge of one’s thought processes) for students” (p.41).

Metacognition in its simplest form is defined as “thinking about one’s own thinking” (Israel, Bauserman & Collins-Block, 2005, p.21). Pintrich (2002) is more precise by pointing to the metacognitive binary consisting of knowledge of cognition and regulation of cognition. Knowledge of cognition relates to one’s awareness of learning strengths and styles. It also includes knowledge of the strategies that enhance learning and recognizing opportunities for their implementation. Regulation of cognition involves the process of planning, setting goals and evaluating one’s learning and thinking. Regulation of cognition makes use of this internalized information to refine or redefine ideas and even change approaches to learning. Earl and Katz (2005) are emphatic about heralding metacognition as the single most important characteristic of Assessment as Learning. They claim:

The ultimate goal in Assessment as Learning is for students to acquire the skills and the habits of mind to be meta-cognitively aware with increasing independence. Assessment as Learning focuses on the explicit fostering of students’ capacity over time to be their own best assessors. (p. 42)

The literature on metacognition in formative assessment is well documented by researchers and educators including Ritchhart (2009), Costa (2008), and Earl (2005). In addition, many Australian state curriculums, and more recently the Australian Curriculum documents include strategies for the systematic inclusion of a thinking curriculum where metacognition is specifically identified: The following summary identifies these key features in each of these curriculums.

- The Australian Curriculum enumerates ten general capabilities that extend across each of the subject disciplines. Particular capabilities such as Thinking Skills and Creativity aim to increase students’ abilities in the areas of problem solving and decision making when dealing with information. Critical, flexible open-minded and adaptive thinking are some of the characteristics to feature explicitly in each learning area.
• The **Victorian Essential Learning Standards (VELS)** has established the Thinking Processes Domain as part of its framework. This domain outlines standards and progression points for Thinking Processes that develop students’ skills and behaviours in the cognitive, affective and meta-cognitive areas of the thinking curriculum (Victorian Curriculum Assessment Authority, 2007).

• The **Northern Territory Essential Learnings** refers to four domains of the learner. The inner learner domain enables the student to become reflective and self-directed thinkers who develop the inclination and capabilities to become metacognitive learners (Northern Territory Curriculum Framework, 2002).

• The **South Australian Curriculum Standards and Accountability Framework (SACSA)** defines five Essential Learnings, one of which is Thinking. This aspect of SACSA curriculum provides opportunities for ‘thinking about thinking’ in the teaching and learning process with the goal of developing students’ skills, dispositions and knowledge in order to generate creative and innovative problem solvers (Government of South Australia: Department of Education: Curriculum and Learning, 2001).

• The **Tasmanian Essential Learnings Framework** has modified its curriculum this year to include the thinking skills of reflection and inquiry in all of its key learning areas (Tasmanian Curriculum: Assessing monitoring and reporting, 2010).

It makes sense that curriculum frameworks profile learning theory. The philosophical beliefs about education and the educative process should be supported by theory which, in turn, becomes evident in the structure, content and practices of the curriculum documents. It also stands to reason that embracing a constructivist paradigm implies the integration of assessment practices that are consistent with theory.

### 2.13 The Australian scene: Outcomes and the national curriculum

Two trends have emerged in relation to assessment practices conducted in Australian schools since 1990 (Brady & Kennedy, 2007). The first is the focus on outcomes-based curriculum documents of each state and territory (See Appendix A) and more recently, the alignment of the states in the push for a national curriculum, where compatibility between state education systems, accountability and enhanced student achievement receive prime consideration. This is evidenced by the recently prescribed standardised National Assessment Program Literacy and
Numeracy NAPLAN tests which are sanctioned by all state governments and territories. The second is the emergence of an “authentic assessment movement, arguably a response to the testing tradition in assessment, which has an emphasis on performance assessment and situated assessment (tasks assessed as students’ work in natural classroom contexts)” (Brady & Kennedy, 2007, p. 55). More recent developments include the adoption and promotion of the terms Assessment of Learning (summative) Assessment for Learning and Assessment as Learning (Earl, 2003). These appear in Tasmania’s Department of Education Essential Learnings Assessing Guide (2010) and The Victorian Department of Education and Early Childhood’s Assessment Advice webpage (2006). Key aspects of formative assessment such as: self- and peer reflection; metacognition; feedback; and constructivist theory feature strongly in State Education curriculum documents and related websites as noted in 2.12. In the state of Victoria teachers are also supported in practical ways through government sponsored resources and research bodies such as:

- Education Services Australia (formerly Curriculum Corporation);
- Victorian Institute of Teaching (VIT);
- Australian Council for Educational Research (ACER);
- Victorian Curriculum and Assessment Authority (VCAA); and
- Australian Association for Research in Education (AARE).

At an International level, the Organisation for Economic Cooperation and Development (OECD) and the International Review of Curriculum and Assessment Frameworks (INCA) provides extensive repositories of research related to educational trends and reforms from around the world. The proliferation of educational reference material, resources and professional development in relation to formative assessment is readily accessible to most Australian teachers. Yet, still lacking is empirical research based on the uptake of formative assessment practice by teachers in Australia, and evidence of its effectiveness when implemented (Matters, 2006).

2.14 Summary

The chapter has noted the curriculum innovations, documentation and implementation strategies for formative assessment in Australia and overseas. Also noted are the challenges of realizing improved practice in light of the national and global emphasis on high stakes assessments and
the tangible conflict of interest between how children learn as opposed to how and what children are taught (Griffin, Woods & Cuc, 2005) – a distinct reality for teachers today. In addition, the chapter reveals the move towards assessment that promotes learning through meaningful tasks based on real-world situations and eventualities (Meuller, 2003).

This review has placed the Assessment as Learning dimension of the Assessment as, of and for Learning triad within the constructivist domain. In doing so it is intended to show how the practice of descriptive feedback, with its emphasis on self-reflection and metacognition, provides a compatible theoretical and empirical position in which to situate this research.

This chapter has sought to establish the relevance of this study by researching two relatively new concepts in education, namely: descriptive feedback and Assessment as Learning. The call for further research in this area has been documented and it is hoped that the findings of the study will add to the existing body of literature. The following chapter justifies the research methodology and describes the design of the study.
CHAPTER 3 : METHODOLOGY

The challenge for those involved in practitioner research is not to seek the superiority of one method over another...but to understand the intellectual lineage of methods selected and/or their relevance to applied problem.

(Murray & Lawrence, 2000, p.9)

3.1 Introduction

This chapter details and justifies the methodological approach and associated research methods used to address the key question and sub-questions relevant to this study. As signaled in Chapter 1, the key question is:

How effectively does my use of descriptive feedback support learners in ‘constructing the way forward’ (Tunstall & Gipps, 1996) in an Assessment as Learning context?

The sub-questions for the study are:

- What are the defining features of my descriptive feedback dialogue?
- What factors influence the take up of my descriptive feedback?
- What evidence is there that descriptive feedback ‘constructs the way forward’ (Tunstall & Gipps, 1996) for the students learning?

The chapter is divided into two parts. Part One presents the reasons for undertaking a qualitative study and for engaging with practitioner research in order to gain insights into the students’ experiences of receiving descriptive feedback to support their learning. The interpretive paradigm which informs this methodological approach, is also discussed. Part Two describes the context for the study and details the research design which includes: the study’s setting; participants and data sources; and analysis techniques. The limitations and trustworthiness of the study are discussed at the conclusion of the chapter.

3.2 Part one: Qualitative research

Much has been written about the features, strengths and shortcomings of qualitative research (see for example Guba & Lincoln, 1994; Marshall & Rossman, 2005; Patton, 2002; Neuman, 2000). Qualitative research often uses multiple methods for triangulation purposes to promote rigour and trustworthiness. It also often grounds the research in the lives of the participants which gives meaning to their experiences – a focus quantitative research is unlikely to seek (Marshall & Rossman, 2005).
Scholars would generally agree that there is no universally accepted definition nor is there a prescribed way of conducting qualitative research (Snape & Spencer, 2004; Tobin & Kincheloe, 2006). Merriam (1998) describes qualitative research as “…an umbrella concept covering several forms of inquiry that help us understand and explain the meaning of social phenomena with as little disruption of the natural setting as possible” (p.5). Constructing meaning from the multiple social realities experienced by people in a particular context, is a primary consideration of qualitative research. Burns (2000) concurs, stating:

The task of the qualitative methodologist is to capture what people say and do as a product of how they interpret the complexity of their world, to understand events from the viewpoints of the participants. It is the lifeworld of the participants that constitutes the investigative world. (p.11)

As such, the lifeworld of the participants and the practitioner researcher, especially in relation to the meanings attributed to the classroom practices and interactions, are central to this study and its findings.

Qualitative educational research is concerned with investigations into questions or problems pertaining to educational institutions. Mertler (2006) states, “Simply put, educational research involves the application of the scientific method to educational topics, phenomena or questions in search of answers” (p.4). This study, in its nature and design, is compatible with the notion of educational research, when matched with the criteria outlined by Mertler. The context (a junior primary school), the educational phenomena pertaining to student assessment and the use of descriptive feedback, satisfy the basic tenets of educational research. Moreover, the inductive approach to qualitative research sits comfortably with this study for the following reasons:

- the research question identifies an issue in my setting and specific to my practice that can be explored through the iterative cycles of action;
- the sub-questions are strategically formulated for the purpose of implementing changes and improving my practice based on the findings of the research; and
- the findings have the potential to influence the learning and pedagogies of teachers and the decisions of administrators in my setting.

3.2.1 Interpretive tradition and a constructivist paradigm

The interpretive tradition I have chosen for this qualitative research aligns with the constructivist paradigm. Classroom action research has a long history, albeit a checkered one, based on
qualitative, interpretive modes of inquiry and data collection techniques (Denzin & Lincoln, 2005). According to Cohen and Manion (1994), understanding “the world of human experience” (p.36) is the primary purpose of an interpretivist approach to research. The students’ experiences and multiple realities are at the core of this study and therefore coalesce with the characteristics of naturalistic, interpretive research.

Another feature of interpretive research is the practice of speaking to people informally about what they are doing, why they are doing it and the meaning attributed to their experiences (Tobin, 2006). The participants’ experiences of receiving and using descriptive feedback in the classroom were sought using a number of data gathering methods. The informal gathering and interpretation of data through conversations and sustained feedback loops were prominent features of this study. In a more formal sense, while still maintaining methodological congruence (Morse & Richards, 2002), insights into participants’ perceptions of feedback were gathered through observations, interviews and self-reflections, in an attempt to gain ‘thick descriptions’ (Geertz, 1988) about their experiences.

Proponents of the constructivist paradigm recognise that:

- the interpretivist-constructivist researcher seeks the participants’ views of the situation being studied and acknowledges their own background and experiences in the research;
- patterns of meaning are generated inductively throughout the research process;
- the world is socially constructed and experienced subjectively by people;
- the researcher is part of what is being observed;
- small sample sizes are mostly used for interpretive qualitative research; and
- multiple methods such as observations, interviews and life histories are often employed to establish the differing views of the participants.

The way in which this study was conducted correlated with these key characteristics. The use of scripted and unscripted questions and data gathering methods (discussed in 3.4.6) provided insights into the cognitive needs and emotional responses of the participants. Moreover, as the practitioner researcher, I was an integral part of the research, not only for the meanings and perspectives drawn from the experiences, but also for the answers I sought in relation to the research questions.
3.2.2 Practitioner inquiry

McNiff and Whitehead (2004) adamantly believe that “practitioner-research is a form of educational research that has significant potential for the education of social formations” (paper presented at British Educational Research Association Conference, p.35). As signaled in the previous chapter, research on the topic of feedback, as a way of supporting and improving student learning, identifies the need for further empirical research in this field (Black & William, 1998; Earl & Katz, 2005; Hattie, 2003; Rodgers, 2006; Torrance & Pryor, 2001). A study which seeks to add to the body of knowledge on feedback in a formative assessment context can therefore be justified on these grounds. In order to illuminate this phenomenon and contribute to the current corpus of knowledge, practitioner research presents as an appropriate strategy for conducting this investigation.

McNiff and Whitehead (2002) propose that the pendulum is on its return arc from elitist institutional research to practitioner theorizing on every day issues. They state:

Research which addresses the important issues of daily living needs to be given as much prestige as traditional scholarship. Practical theorizing is an important methodology for making holistic cultural, social and intellectual progress…The most powerful and appropriate form of theory for dealing with contemporary social issues is one which is located in, and generated out of, practice, and which values tacit knowledge. This all comes down to action research, a way of researching one’s own practice and generating personal theories of practice which show the process of self-monitoring, evaluation of practice and purposeful action to improve the practice for social benefit. (p.20)

The umbrella term ‘practitioner inquiry’ and its associated nomenclature is varied and can be confusing, particularly for the novice researcher. The terms: action research; participatory action research (PAR); teacher as researcher; self-study; narrative inquiry; practitioner research; and the scholarship of teaching and learning, are often used interchangeably and with blurred lines of delineation. Given this situation it is helpful to de-clutter the action research landscape and articulate precisely the assumptions, epistemology and ontology appropriate for this research project.

At the broadest level practitioner inquiry requires respectful action for investigating and making meaning of specific situations or circumstances to improve one’s practice (Campbell & Groundwater-Smith, 2007). Put simply, practitioner inquiry involves a practitioner becoming the
researcher for a specified purpose (McLeod, 1999) as opposed to the more traditional notion of the practitioner being the subject of the research. Pritchard (2002) defines practitioner research as “…the array of activities people carry out as they seek knowledge or understanding, while pursuing or improving a social practice in which they regularly engage” (p.3). The array of activities in this instance will include a cycle of the action-reflection research model (Figure 3.1) and the multiple data gathering methods outlined in 3.3.5.

Practitioner researchers position themselves within their study (Mullen, 2005). My approach to practitioner researcher aligns with McNiff and Whitehead’s (2006) description exhorting educators to ‘regard themselves as practitioners and to study their practice collaboratively, in a disciplined and scholarly way, and to make their accounts of practice public, so that others in their community and elsewhere can learn and benefit.’ (p. 18) In this study the action reflection model (see Figure 1.1) was enacted to inform my living theory (Whitehead, 2007) of teaching and learning and to provide empirical research that can be compared to, and contrasted with, the current literature.

3.2.3 The action-reflection research strategy

The action-reflection research model presented in Figure 3.1, with its iterative cycles of: observe, reflect, act, evaluate, modify and move in new directions (McNiff & Whitehead, 2006), provides a compatible and systematic basis upon which I hope to improve my learning and effect change.

![Figure 3.1 The action-reflection cycle](image-url)
In brief, the cyclical steps require the practitioner to:

**Observe:** observe what is happening and identify an issue or concern

**Reflect:** reflect on a possible action

**Act:** try it out and monitor the action by gathering data to show what is happening

**Evaluate:** evaluate results by applying procedures for forming judgments about what is happening and testing their validity

**Modify:** modify practice informed by evaluation.

**New directions:** initiate another revolution of the cycle whereby findings or theories generated from the previous cycle are incorporated into the next action.

(McNiff & Whitehead, 2006)

It is noted however, that this is a small-scale project involving a highly intensive data collection period of eight days. Cain, Holmes, Larrett and Mattock (2007) support the conception of a literature-based one-turn action research model as a valid approach to research, particularly as the foregrounding of the study through the investigation of the literature “helps the researchers to engage in the controversial issues, drawing out points of disagreement, contrasting different authors’ points of view and articulating certain standpoints” (Cain et al., 2007, p.104). The age of the students and the constraints of the school program made the choice of a one-turn approach manageable, with the high prospect of yielding significant changes to my formative assessment practice in the classroom.

### 3.3 Part two: The study design

Part two outlines the setting, participants, data sources and coding strategies used in the study, followed by a summary of the chapter.

### 3.3.1 The setting

The research was conducted in the junior primary campus (Prep – Yr 3) of a large independent school in country Victoria. The school is an inclusive, coeducational institution that attracts local, interstate and overseas students. The socio-economic rating assigns the majority of enrolments to middle class backgrounds. All of the research data was collected in the students’ classroom during term four.
3.3.2 Student participants - purposeful sampling

The purposeful sampling strategy for this study involved a ‘handpicked’ total of six participants from my Year 2 class of 22 students – two girls and four boys. The students ranged in ability levels from low, middle to high achievers. The selections have been made in order to obtain rich, diverse and descriptive data about the students’ experiences of descriptive feedback in the specific Assessment as Learning domain. Patton (2002) supports this notion by stating, “Purposeful sampling focuses on selecting information-rich cases whose study will illuminate the questions under study” (p. 230).

Achieving a gender balance in the sample was taken into consideration. However, the number of boys in the class group significantly outweighed the girls by a ratio of 3:1, thus reducing the sample size of female students suitable for this project. The selection criteria for achievement included previous school reports and standardized assessments routinely given within the first term of the school year.

<table>
<thead>
<tr>
<th>Student</th>
<th>Age</th>
<th>Ability Level</th>
<th>Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jack</td>
<td>8 yrs 10 mths</td>
<td>Low</td>
<td>quiet, observant, diligent, lacks confidence, learning preference: visual /kinaesthetic</td>
</tr>
<tr>
<td>Marcus</td>
<td>8 yrs 7 mths</td>
<td>Low</td>
<td>active, talkative, learning preference: auditory</td>
</tr>
<tr>
<td>Ava</td>
<td>8 yrs 9 mths</td>
<td>Average</td>
<td>reserved, conscientious, learning preference: visual</td>
</tr>
<tr>
<td>Stephen</td>
<td>8 yrs 2 mths</td>
<td>Average</td>
<td>outgoing, expressive, learning preference: auditory/kinaesthetic</td>
</tr>
<tr>
<td>Ted</td>
<td>8 yrs 4 mths</td>
<td>High</td>
<td>reflective, articulate, learning preference: visual,</td>
</tr>
<tr>
<td>Susan</td>
<td>8 yrs 1 mth</td>
<td>High</td>
<td>articulate, reflective learning preference: visual</td>
</tr>
</tbody>
</table>

Table 3.1 Profile of student participants

3.3.3 Toy technology lessons

The data were collected over a period of eight days which included two lessons based on a Toy Technology inquiry topic. The unit of work introduced the students to the technology process of investigating, designing, producing, and evaluating, as outlined in the state curriculum frameworks Victorian Education Learning Standards (VELS). The lessons were also composed
to extend the students’ knowledge of forces and energy which they explored in a previous Physical Science unit. Prior to the first lesson for data collection, the class participated in an excursion to the local toy store and purchased small toys to the value of $5.00 which they later dismantled and examined for their moving parts.

### 3.3.4 Lesson sequence

In the first lesson, students were instructed to observe, test and record the push-pull forces that acted on the moving parts in their toys. Basic tools were provided for dismantling the internal mechanisms. Diagrams and observations were recorded on an A3 prepared worksheet (see Appendix G). The final plenary discussion focused on the Big Question, *What was in the mind of the inventor?* At this time the students were also encouraged to share their feelings about their performance in the task and were questioned as to whether or not they achieved the learning goal of identifying the push-pull forces in their toys.

In the second lesson, the students’ attention was again directed to the Big Questions and Understandings displayed on the wall in order to elicit any further discoveries or insights gained throughout the week. Some preliminary work had been completed on designing a toy spinning top that could remain in motion for thirty seconds. The learning goal of implementing the technology design process to create a product was stated explicitly prior to commencement of students making and testing the toy spinning top.

### 3.3.5 Data collection methods

As noted earlier, qualitative research does not prescribe a particular set of methods but does infer an ontological and epistemological perspective, based on socio-cultural and constructivist theories of learning (Johnson, 2008), which has a direct bearing on this study. The data collection methods used were chosen for their potential to yield rich qualitative data about the students’ experiences of engaging in descriptive feedback to improve their learning and included: audio recordings; semi-structured interviews; non-participant observations; student ‘Thinkit-tickets’; and a teacher journal (see Table 3.2 for a summary of the data collection methods and schedule for implementation). It was intended that the trustworthiness and rigour of this study would be improved using multiple methods for triangulation purposes.
3.3.6 Audio recordings

Given the time constraints, two audio recordings of in situ descriptive feedback conversations with the students were undertaken using a digital voice recorder. The focus of the feedback related to the students’ affective connection to the task (How do you feel about your learning?), goal orientation (‘What do you need to do?’) and cognitive challenges (‘What are the hard parts?’). Listening and speaking is one way of accessing, recording and collating such vital “in the moment” data. Kincheloe (2003) is supportive of this approach. He states,

One of the quickest ways to apply teacher research to the pursuit of good teaching involves, simply, teachers listening to students. This ‘research on students’ is a cardinal tenet of good teaching, as the teacher details his or her observations, as well as his or her reaction to the learner. (p. 39)

The recordings were conducted both strategically and incidentally as opportunities arose within the sequence of lessons. It was important that all students in the class receive equal opportunities to engage with descriptive feedback about their learning, however only the participants were recorded. The participants were recorded twice, once for each lesson. This information was stored on a computer, which in turn, created a thorough audit trail and provided an accurate record of the students’ conversations throughout the data collection period. The students were familiar with the digital recording device as it had been used in a range of situations in the classroom previously and reduced the likelihood of any contrived or uncharacteristic behaviour through its use in this study.

3.3.7 Individual semi-structured interviews

The explicit purpose of the semi-structured interviews was to explore in depth, the motivational and cognitive factors that impacted on the students’ performances during their involvement in the Toy Technology lessons. My intention was to gain insights into their self-efficacy and clarity of purpose, while also looking for opportunities to co-construct ways to achieve the desired learning goal.

Face to face semi-structured formal interviews appealed as a valid tool for revealing the thought processes and ‘self-talk’ that often remain invisible when students think (Ritchhart and Perkins, 2008). A semi-structured format allowed for specific questions relating to the nature of
descriptive feedback, yet also provided the flexibility to pursue unexpected tangential issues or remarks from the respondents.

The questions were scripted prior to the interviews (Appendix A) in order to maintain a focus on the insights I was hoping to record. However, the intention was also to allow the students to express their points of view, feelings and experiences on personally meaningful aspects of their learning. By allowing for this type of talk, it was hoped that the participants would gain confidence in the process and feel valued for their responses and elaborations. Clarification was often sought by repeating the participants’ responses or paraphrasing their answers to gain a more accurate understanding of the discourse and the intended meaning.

All of the interviews were conducted within class time, while the remaining students were engaged in other tasks. This replicated a regularly occurring practice, whereby students often sat with me to discuss matters relating to their learning or behavior. Conducting interviews in this way aimed to reduce researcher effect or reactivity (Maxwell, 2005) as result of the unequal power relationship within this context. Each interview took approximately 10-15 minutes to complete and was audio recorded with full knowledge and consent of the participants (see Appendices E and F).

3.3.8 Student self-reflections

Student reflective journals are commonplace in primary and secondary school settings. The students in this study were familiar with their use, albeit in different formats and styles. They had used a sketch and reflect pad in the previous year to record their self-reflections using illustrations or words. The introduction of Thinkit-tickets at Year 2 was a novel approach based on the ‘exit card’ strategy in which students share a written or oral response about their learning, at the conclusion of a lesson. The Thinkit-tickets were presented in a colourful booklet format containing twenty tickets with a variety of sentence prompts to promote self- and peer assessments. Some of the prompts incorporated Thinking Routines (Ritchhart, Palmer, Church & Tishman, 2006) while others probed student thinking in relation to their cognitive needs, self-regulatory actions and affective needs. The students were always permitted to self-select the Thinkit-ticket they deemed most relevant (see Figure 3.2). Some questions were repeated in the booklet to support the self-reflective process by providing familiarity and repetition.
Appendix C shows the format of the booklet and the range of question prompts from which the students could select. The Thinkit-tickets were intended to produce useful insights into the participants’ sense of agency as learners and complement the other data sources.

3.3.9 Informed non-participant gathering unstructured observations

Teachers continually make observations about student learning and in many cases, their own teaching performance. Of particular interest to this study were the interactions of the students and the teacher-researcher about the tasks they undertook together, during the observed lessons.

The gathering of rich descriptive data from young students requires the eyes and ears of an experienced practitioner. For this reason, Colleen Abbott, an educational consultant, was chosen as the informed non-participant observer. Colleen has accrued valuable experience in teaching and leadership in primary schools and has acted as an observer in previous research studies. The two sets of observations occurred during the sequential lessons which were spaced a week apart. Actions were recorded using pre-determined criteria, which had been explained to Colleen prior to the lessons (McNiff & Whitehead, 2005). The observation guidelines were:

- things you hear from students and me;
- body language during and after interchanges; and
- what students do following interventions involving descriptive feedback.

The students were familiar with Colleen as she had visited classes on previous occasions to make observational notes for teachers and to assist them with their planning. The observation periods were approximately 45 minutes in duration. This allowed for a full observation of the first lesson, but excluded the plenary discussion with the class from the follow-up lesson. Colleen’s notes were emailed the following day.
3.3.10 Teacher reflective journal

The teacher reflective journal was completed at the conclusion of each lesson. The journal notes consisted of observations relating to conversations, body language, student movement and researcher assumptions about the general level of efficacy demonstrated by the students during the lesson. The reflective journal also addressed some of the questions contained within the Thinkit-ticket booklet.

The key questions were:

- *What did you do well?*
- *What will you do again?*
- *How did you feel about your learning?*
- *What will you improve?*

The use of these questions helped to focus the reflection on the teaching performance in relation to the descriptive feedback and its effectiveness in *constructing the way forward*. The journal also provided a means for exploring modifications to the feedback and planning the new directions for the ensuing lesson.

3.3.11 Schedule for data collection

The data collection schedule was arranged in Term 1 of 2008 and undertaken in Term 4 of the same year, as summarized in Table 3.2.

<table>
<thead>
<tr>
<th>Data Collection Method</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two audio recordings (AR 1 &amp; 2)</td>
<td>Conducted by practitioner researcher during sequence of lessons</td>
</tr>
<tr>
<td>Two semi-structured interviews (Int 1 &amp; 2)</td>
<td>Conducted by practitioner researcher with individual participant after each lesson</td>
</tr>
<tr>
<td>Two Non-participant observations (Obs 1 &amp; 2)</td>
<td>Conducted during consecutive sequence of lessons</td>
</tr>
<tr>
<td>Student reflective journal – Thinkit-ticket entry</td>
<td>Completed by students after the initial lesson</td>
</tr>
<tr>
<td>Two teacher reflective journal entries</td>
<td>Completed by teacher after each lesson</td>
</tr>
</tbody>
</table>

*Table 3.2 Data collection techniques and schedule*
3.3.12 Methodological congruence

The purpose, questions and aims that drive this study and the ensuing data collection methods and coding schemes were chosen in an endeavour to provide a series of interrelated, coherent links between the various components of the research design. The methodological congruence (Morse & Richards, 2002) I endeavoured to establish began with my own reflective practice and the decision to undertake further study in the form of practitioner inquiry as outlined in Chapter 1. The ensuing choices regarding one-turn action research and the selection of data collection methods were sought to enhance the possibilities for thinking about, approaching and investigating the topic of descriptive feedback in a cohesive and meaningful manner.

3.4 Approaches to analysis

The order, structure and meaning of the data undergird the process of qualitative analysis (Hurworth, 1996). To ensure the relevance and coherence of the coded data, and the ensuing coherence of this study, three guiding questions were used:

- How should I treat the data in addressing my research question?
- How do the findings relate to my research question?
- Has the research methodology yielded the information I need in order to answer my question? (O’Leary, 2005)

Miles and Huberman (1994) suggest that qualitative analysis consists of ‘three concurrent flows of activity, namely: data reduction; data display; and conclusion drawing/verification’ (p.10). Using the guiding questions and the three concurrent flows, the data were gathered and analysed simultaneously, to identify key themes, experiences and concepts across each of the sources. From this analysis emergent ideas were generated.

3.4.1 Data reduction: Coding schemes

Data reduction involves the continuous process of selecting, abstracting, simplifying and transforming the data obtained from interview transcriptions and field notes (Miles & Huberman, 1994). Immersion in the corpus of information involved searching and cross checking the themes that emerged from the notes, texts and recordings (Kauer, 2007). Coding schemes were derived from initial impressions built from noting and colour coding reappearing words, phrases, and
actions that occurred during the descriptive feedback process. This was an ongoing and continuous process of refinement as new data was gathered and coded.

3.4.2 Data display: Semi-fixed grids and matrices

A data display refers to the visual assembly of compressed data that assists researchers to deepen their understandings of what is happening, draw conclusions and make decisions about further actions based on new found information (Miles & Huberman, 1994). Charts, graphs, matrices and grids are commonly used in this cycle of the analysis. A system of colour coding and counting was used to collate and display the information from the semi-structured interviews and observations using the broad categories that emerged (see Figure 3.2). The organization and comparison of these grids assisted in revealing the emergent themes that illuminated the research question and provided a new direction at each iterative step of the research process.

Teacher: How did your learning go?
Ted: Well, I think it’s pretty good.  
Teacher: What makes you say that?
Ted: I like what I did with all of the arrows showing what I did in different parts
Teacher: How did you get your ideas for that?
Ted: Well, since it took us a really long time to do it (dismantle the toy). Instead of just writing I wanted to show how difficult it was and how long it should have taken (sic) .

COLOUR CODE KEY: (total responses from students)

- Red: Reference to Presentation: RP (X3)
- Orange: Reference to Ideas: RI (X1)
- Blue: Reference to Hands-on skills: RH (X2)
- Green: Reference to Collaborative learning: RCL (X1)
- Purple: Reference to Spelling: RS (X1)
- Pink: Reference to Copying: RC (2)
- Brown: Reference to Time Management: RT (2)

CODE:

<table>
<thead>
<tr>
<th>Total responses from students</th>
<th>BD (2)</th>
<th>DD (4)</th>
<th>PR (5)</th>
<th>NR (0)</th>
<th>U (1)</th>
</tr>
</thead>
</table>

COLOUR CODE KEY: (total responses from students)

Figure 3.2 Example of coding scheme applied to Ted’s response to a question in the semi-structured interview
A descriptive, partially ordered matrix (see table 3.3) proved a viable and flexible option for organizing coded data for actions, behaviours and responses that arose from the observations, reflective journals and audio-recorded conversations. The precise format of these data display grids and matrices became more apparent as the data were being collected and coded.

<table>
<thead>
<tr>
<th>Child</th>
<th>Learning goals noted (LG)</th>
<th>Student constructs a way forward (SCF)</th>
<th>Student carried out action (SCA)</th>
<th>Positive response (PR)</th>
<th>Negative response (NR)</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergent themes:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tentative Conclusions:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.3 Matrix for descriptive semi-structured reflective journal entries

3.4.3 Conclusion drawing and verification

The third component of the approach to analysis was to ensure, through memoing or note taking, that the formulation and modification of conclusions were verified by criss-crossing and backtracking through the body of data. As meanings emerged, they were questioned and tested by revisiting the data and identifying replication in the other data sets. Intersubjective consensus was also sought with another colleague to verify the meanings derived from the analysis.

3.4.4 Rigour and trustworthiness

The essence of triangulation is to use ‘multiple data collection methods, data sources, analysts, or theories as corroborative evidence for the validity of qualitative research findings’ (Gall, Borg &
The methods employed for this study were chosen for their potential to establish consistencies across the various data sets and satisfy the requirement for trustworthiness and rigour. The data sources provided opportunities for the voices of the researcher, participants and the informed non-participant observer to be heard. This in turn provided multiple lenses for interpreting the recorded events and descriptions, and the meanings that might be attributed to them. Triangulation can also be achieved through the use of analysts. Intersubjective consensus with a select number of colleagues (including Colleen Abbott) was sought to enhance the credibility of this study’s findings. In brief, other strategies to assist the establishment of rigour and trustworthiness included:

- **Member checking:** Interview transcriptions were made available to the students and legal guardians. Taped conversations were stored on computer and were available for future reference or play-back at any time. Summarised versions of the main points of the interviews were fed back to the participants for respondent validation.

- **Familiarisation:** A concerted effort was made to reduce the impact of researcher effect (Bogdan & Biklen, 1982; Maxwell, 2005) on data through students’ regular exposure to the digital recorder and interview processes. Students were familiar with the non-participant observer from previous visits to the classroom.

- **Audit trail:** The accessible and systematic record keeping of transcripts, audio recordings, field notes, and collegial intersubjective consensus findings formed a verifiable audit trail.

- **Critical friend:** The study’s supervisor Dr Sally Godinho and Colleen Abbott, the non-participant observer, witnessed the authenticity of the research by ensuring that sufficient data was gathered for the study’s conclusions. They also reviewed the methods used for gathering, coding and analysing the data. The information gathered from the semi-structured interviews, audio-recordings and reflective journals were cross-checked with the notes obtained by Colleen Abbott to search for regularities (O’Donoghue & Punch, 2003).

### 3.5 Limitations of the study

All studies are subject to constraints based on the nature and design of the research, the people involved and the context in which it takes place. It is acknowledged that the data collected and
the conclusions drawn relate only to the setting in which the research was conducted. The conclusions are not generalizable to other educational settings. Yet, suffice to say, this is not the aim of qualitative research and the absence of broader applications and relevance for other settings does not diminish the findings for the context in which the study was conducted (Wolfer, 2008).

In addition to this, the population from which the sample drawn was very small (22 students) which further highlights the specificity of the case. The gender of the sample was not equally represented. The class contained many more boys, thus reducing the options for selecting girls to fit the learner ability categories designated in the study design. This study does not consider issues related to gender in the findings. Further, the study was conducted in a select independent school which is not representative of the education received by most of the children in the region.

The key findings outlined in Chapter 4 do not purport to make claims for the wider population. Limitations for this study relate to researcher effect, duality of the roles of practitioner research and scope of the study. However, the lack of research into the field of descriptive feedback (Rodgers, 2006) will hopefully benefit from the findings.

3.5.1 Ethical considerations

Combining the role of teacher and researcher, or role dualism (Hurworth & Argirides, 2003), was at times difficult from a management point of view and also in terms of maintaining some objectivity. As the practitioner researcher I had to be mindful of the fluid movement that occurred between both roles and was cognisant of the occasions during which the roles merged. The reality and demands of role dualism can result in privileging one role over another, thus influencing the data collection either through missing opportunities to record data or by focusing on the researcher role overtly, and losing teaching moments in which learning could be impacted. In this study the students were engaged in class work that occurred routinely at the time of the data collection. While the participants were aware that the research was being conducted its impact was minimised given the continuity of the curriculum and familiarity of the lesson structure and associated expectations for learning.

Further ethical issues encountered in this study include the influence of the pre-existing relationship in acquiring consent, maintaining anonymity and ensuring confidentiality. The
acknowledged unequal relationship was addressed in the consent process which encouraged discussion between the participants and their parents before consent was given. In accordance with the ethics requirements of the Human Research Ethics Committee (HREC) at University of Melbourne, the participants and parents were assured that participation in the project was entirely voluntary and any decision to withhold consent would not prejudice any students’ standing with the school or affect their school work or grades (see Appendix D: Plain Language Statement for Parents). The students also were given a prior opportunity to ask questions about the research in a specially convened meeting. In addition to acquiring standing parent consent the school’s research ethics committee also reviewed the project and granted its approval.

The subjective nature of the study, based on my vested interest in the well-being and performance of the students, as well as my own performance and ontological beliefs, are recognized. Bias, through preferred choices of methods and ways of interpreting the data (epistemology) is a reality for all studies (Murray & Lawrence, 2000). However, I believe the impact of researcher effect was minimised through member checking and intersubjective consensus with the study’s supervisor and critical friend.

3.6 Summary

In this chapter, I have outlined and justified the study’s qualitative methodology and my alignment with the constructivist paradigm. The practitioner inquiry and action reflection strategy, were then discussed. The data collection methods and analysis techniques were described and justified, and finally the limitations and trustworthiness of the study were presented and the issues relating to the ethical veracity of the study were addressed. The next chapter presents the research findings.
CHAPTER FOUR: RESEARCH FINDINGS

Qualitative data are sexy. They are a source of well grounded, rich descriptions and explanations of processes in identifiable local contexts...Words, especially when organised into incidents or stories, have a concrete, vivid meaningful flavour that often proves far more convincing to a reader – another researcher, a policy maker, a practitioner – than pages of summarised numbers.

(Miles & Huberman, 1994, p.1)

4.1 Introduction

This chapter presents the findings of data analysis and my identification of the key themes to emerge from carefully filtering the information. As detailed in chapter 3 the data sources from which the analysis was derived included: two audio recordings (AR 1 and AR 2); two semi-structured interviews (Int. 1 and Int. 2); two non-participant observations (Obs. 1 and Obs. 2); student written reflections (Thinkit-ticket entry); and two teacher reflective journal entries.

The key themes outlined in this chapter include:

- the immediacy of feedback;
- the pattern of in situ feedback conversations;
- the descriptive component of self-reflections;
- digging deeper for student feedback;
- the use of think time (Black & Wiliam, 1998, Black et al., 2004; Rowe, 1974); and
- language, explicit instruction and questioning to facilitate descriptive feedback conversations
  - affective feedback
  - identifying and attaining learning goals
  - Big Understandings and Essential Questions

The diverse findings represent my interpretation of the data. The patterns that emerged coalesced to form the themes that illuminate the data and give meaning to the interactions that occurred. In some cases, the issues raised by the findings are quite specific such as think time and physical proximity of the teacher, while the pattern of in situ feedback conversations and explicit language and questioning to facilitate descriptive feedback conversations are broader in scope and are representative of a number of convergent themes.
4.2 The immediacy of feedback

“I can’t really remember…”

Delayed feedback which could not be acted on immediately (semi-structured interview one) appeared to have discernable impact on the students’ ability to recall and use the instructive components of the descriptive conversations at a later time. The two semi-structured interviews, which consisted of many descriptive feedback questions, occurred within eight days of each other. A sample of the questions and prompts used in the interviews included:

Tell me how you feel about your learning in the Toys topic we’ve been studying?
What are the fun things? and What makes you say that?
Are there any difficult parts? and What makes you say that?
How do you think your learning is going? and What makes you say that?
What is the next thing you need to do?
How can I help you?
How can you help yourself?

In response to the round two interview question, Do you remember what we spoke about last time to improve your learning in our Toy Technology topic?, four of the six students were unclear when asked to recall the details or strategies that were discussed for moving their learning forward, as the comments in Table 4.1 reveal:

<table>
<thead>
<tr>
<th>Jake</th>
<th>Ted</th>
<th>Stephen</th>
<th>Susan</th>
<th>Marcus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Umm, not really.</td>
<td>I don’t really remember but I think it was… I can’t really remember at all ‘cos it was quite a long time ago.</td>
<td>…I forgot about it.</td>
<td>I think it was when we were doing our spinning top…no it was the explanation texts on the toys we bought.</td>
<td>Ahh hummm. (student looked to me for assistance)</td>
</tr>
</tbody>
</table>

Table 4.1 Round two interview: Student responses to interview question

While the students were able to recall the next step strategy after some prompting, it was evident that the jointly negotiated actions to assist them were not prominent in their thinking, or in the strategic approach they undertook in the follow-up lesson. Given that the interview took place after the learning episode, it is reasonable to deduce that the initial feedback did not influence or assist the students’ learning in any significant way. The teacher journal entry noted that Marcus,
Susan, Stephen and Jake were able to recall the previous descriptive conversation and most of the details but required prompting.

In contrast to the students’ difficulty recalling the co-constructed strategies from the semi-structured interview, the in situ feedback discussions yielded immediate follow-up actions. The second round of non-participant observations were conducted specifically for the purpose of recording the actions of students once the descriptive feedback conversations had concluded. The students’ task in this instance was to revisit the evaluation stage of the technology design process and adjust the spinning tops to prolong their motion. Most of the conversations conducted with the students usually concluded with a ‘feed-forward’ instruction (see section 4.3). The following examples demonstrate an in situ conversation with Susan (Obs. 1) followed by Colleen’s observation notes of my interaction with Ted (Obs. 1).

Teacher: Do you feel confident?
Susan: I feel confident. I think I need to put a bit more weight on here.
Teacher: Once you have done that, test it again and observe closely to see how it works.

While unable to monitor Susan’s actions immediately after our descriptive feedback conversation, the positive response to my suggestion was evident in the plenary discussion, where she described the changes she made to her spinning top and the effect the alterations had on its motion. In the next example, Ted (Obs. 1) shows that he is grappling with the task. He adopts the suggestion to use some ‘think time’ which is evidenced by the extra trials of his spinner, his continued attempts to write and intermittent pauses for gathering his thoughts.

Teacher: Have you written your observations?
Ted: Yes, I have.
Teacher: Are you confident? (Ted sort of shakes his head) No? Have some more think time and then see me about your ideas.

Colleen’s notes: Ted appears not really interested as he does not seem to know what to do...tries spinning his top...puts another bead on it and it doesn’t spin any better. Ted looks at his paper. Starts to write. Checks where Chris is, back to writing. Pauses in writing, head drops. Goes to Chris with ideas.

The significant observable pattern in both examples is the propensity for action when the feedback was delivered at the time of learning, as opposed to the delayed feedback provided
after the event. Indeed, five of the six students responded immediately to the next step instruction when it was provided within the lesson (Obs. 1).

4.3 Pattern of in situ feedback conversations – feeding back, feeding up and feeding forward

“Have a go now, you seem to be on the right track.”

A common feature of the one-to-one discussions with the participants was the layering of feedback, feed-up and feed-forward flow of statements (Atkin, Black & Coffey, 2001). In brief, feedback refers to observations or statements about the student’s engagement and current progress towards a specified goal. Feed-up pertains to discussions that clarify the goal and orient the student towards it, while feed-forward dialogue constructs the way forward by identifying strategies or directions for future learning (Fisher & Frey, 2009).

During the initial exchange to the whole class the students were permitted to share their natural exuberance for the toys they were about to investigate. I tuned into the discussions, made eye contact and nodded to affirm the students’ conversations and show approval of their free expression. The feed-up and feed-forward instructions, however, were most prominent. The establishment of a learning goal and identifying various pathways to achieve its completion required extensive treatment through brainstorming and probing questions such as:

- What are we hoping to learn about? feed-up
- How can we put that into a learning goal? feed-up
- How can we find out what makes a good toy? feed-forward
- Can you see how we are connecting up our learning? When have we learned about this before? feed-up

The descriptive feedback exchanges conducted with individual students during the lessons consisted of feedback in the first instance, followed by either feed-up or feed-forward statements. This was a natural pattern as neither a script nor format had not been devised to assist with the discussions. Each interaction was taken on its merits and the feedback prompts and line of questioning were composed in response to the students’ answers or perceived level of self-efficacy in the task. The following three examples, as recorded by Colleen, typify this progression (Obs. 1).
Example 1 Jake

Teacher: Do you remember what we spoke about? (silence while Jake looks at you) feedback
Jake: Not really...ummm yes, spelling. I sort of need help with spelling. feedback
Teacher: Are you happy with this spelling? feedback
Jake: Yes. feedback
Teacher: What makes this spelling better? feed-up
Jake: I worked hard. feedback
Teacher: Are there any other words we need to fix? feed-up
Teacher: Let’s fix one more. feed-forward

Bearing in mind Jake’s lack of confidence and low ability (see participant profiles 3.2.2), the imperative was to support him without eroding his confidence by highlighting multiple errors. The descriptive feedback was aimed at uncovering his self-regulatory strategies and metacognitive thinking. Jake revealed that he had maintained an awareness of this focus for further improvement and felt positive about his performance. The invitation to ‘fix one more’ was two-fold in purpose: first, to check the strategic spelling choices he was making; and second to build a rapport by actively supporting his learning through the conscious action of working alongside him to address a spelling error of his choice.

By contrast, Susan, who is an independent and reflective student, often directed her own learning. The feedback to and from Susan is aimed at clarifying her ideas for achieving the learning goal. Yet this aim is still accomplished with a sequence of feedback, feed-up and feed-forward questions (AR 1).

Example 2 Susan

Teacher: Susan tell me about your toy.
Susan describes her toy and how it relates to her task feedback
Teacher: Does this fit with your learning goal? feed-up
Susan: A little bit. feedback
Teacher: How? feed-up
Susan: Because some of the ideas have to do with force. feedback
Teacher: Any ideas for this part? (teacher points to another section on the worksheet.) feed-up
Susan responds affirmatively and explains her ideas. feedback

Teacher: What is the hardest part? feedback
Susan: Explaining it properly. feedback
Teacher: Have a go now, you seem to be on the right track. Come to me if you are having trouble. feed-forward

Similarly, the descriptive feedback, feed-up and feed-forward pattern in Example 3 (AR 1) mirrors the sequence cited for Jake and Susan. The necessity of responding to Ava’s individual circumstances can be seen as she had taken a different approach to all of the other students by starting with a labelled diagram of her toy rather than the questions at the top of the worksheet. Hence, while it might prove advantageous to have a loosely arranged pre-determined script for engaging in descriptive feedback, the individuality of each case often directed the discussions.

Example 3 Ava

Teacher: Ava you have done something very different from everyone else. Tell me about it. feedback

Ava explains her thinking strategy. feedback

Teacher: Why did you choose to do it this way? feedback
Ava: Because we might forget what the car looked like when we pull it apart so we drew it first. feedback

Teacher: What is going to be the hardest part? feedback
Ava: Finding the information. feedback

Teacher: Where will you find it? feed-up
Ava: By taking the car apart. feedback

Teacher: Do you feel confident? feedback
Ava: Sort of. feedback

Teacher: Well I think you need to try that part for yourself to see how you go. feed-forward

These examples show how the descriptive feedback conversations moved through a sequence of feedback, feed-up and feed-forward questions that, at the time, were unrehearsed and quite unintentional. However, the intention was to gauge each student’s level of self-efficacy by asking how they felt and how they intended to work through the challenging parts of their assigned task. The feed-forward instructions were quite general in these examples and likewise with other examples – reassurance and encouragement were being offered as closing remarks in
many cases. The aim was to ensure that the students were oriented towards achieving completion and for them to assess their own progress towards the end goal.

4.4 Descriptive component of self-reflections

“I was successful!”

The students showed varying degrees of aptitude for self-reflective thinking. Opportunities for looking back into our learning were given in the form of written Thinkit-tickets (see Appendix C) in lesson discussions and the post lesson semi-structured interviews. The students were able to choose from a number of question prompts from their Thinkit-ticket booklet. They chose to write their reflections, except for Marcus who opted to draw his response. Ted was absent from the room when the Thinkit-tickets were being completed.

A range of metacognitive thoughts and self-regulatory actions were revealed in the students’ written responses. Four students chose to reflect on their individual performances by selecting tickets such as: Did you feel successful today? Why? or How could you have improved your learning today? In the process of identifying learning strengths and areas for further improvement, three of the students made reference to the presentation or written component of the task. This was a common occurrence across all data sources. The following examples bear out the emphasis the students placed on page presentation and organisation.

Susan: I think my learning went really well because I put bold headings and I heard great comments from my classmates. I was successful.

Stephen: I feel bad because it wasn’t my best quality.

Ava and Jake focused on the clarity and originality of their written expression, as these responses demonstrate.

Jake: I was meant to use the word for. I said it in a different way (sic).

Ava: I could improve by using descriptive words in my learning.

Marcus was challenged by the general excitement in the classroom and the ongoing noise throughout the lesson. His bold drawing (see Figure 4.1) and emotive verbal response (see section 4.5) describe the distractedness he was experiencing and raised immediate concerns about a range of factors impacting his learning. As a consequence of his Thinkit-ticket revelation, a retreat area was established for him to use when his ability to concentrate was compromised. In this instance, the Thinkit-ticket strategy not only elicited vital feedback from
Marcus concerning an area of personal difficulty but resulted in the implementation of practical strategies to support his learning.

In addition to the written Thinkit-ticket reflections, the semi-structured interviews also revealed many references to the written component of the task. Indeed, when asked about improvements to their learning all of the participants identified certain aspects of their writing skills or page presentation. The following section details the students’ responses to the statement: *Tell me how you feel about your learning in the Toys topic we have been studying* (AR 1).

Ted: Well I think it’s pretty good.
Teacher: What makes you say that?
Ted: I like what I did with all of the arrows.
Teacher: How did you get your ideas for that?
Ted: Well since it took us a really long time to do it (dismantle the toy) instead of just writing I wanted to show how difficult it was and how long it should have taken us.

During the individual interviews Ava mentioned her improved performance in writing. Her sense of agency is quite noticeable as a result of her increased confidence in spelling.

Ava: I felt much more confident and I knew more spelling words and I thought I could do A) easier.
Teacher: So, because you felt confident with your spelling, that also made you feel confident about doing the writing part?
Ava: Yes, because I’m good at drawing, I know that, but then I need to know the words because otherwise it’s just drawing.

Jake also connects his agency as a learner with his ability to write and make spelling choices independently of his partner.

Teacher: How did your learning go
Jake: Excellent.
Teacher: What makes you say that?
Jake: Because I didn’t do the same as Stephen.
Teacher: What did you do that was different?
Jake: I did different writing and spelling.

Stephen commented in this way.

Teacher: What improvements would you like to make here?
Stephen: Drawing the other side of the plastic bit and the screws coming out and in.
Teacher: What else would you like to improve?
Stephen: Writing more about the thing and explaining it better.

Stephen offers similar suggestions about his writing. When asked about possible improvements both students alluded to the quantity of writing they achieved and expressed a desire to write ‘more’ in the future. While in the next excerpt, Susan could not identify any further areas for improvement, she shared her thinking about the choices she made when setting out her page (presentation and organisation) and provided this explanation for her decision-making:

Susan: It’s set out quite well and the information ties in…and the headings help because if you just said ‘in the pull back car there is a little box with two cogs that vibrate and turn the wheels. Then ‘In the door’ heading... like… they announce the category.

The examples provided indicate that the students place a high priority on writing, spelling and page presentation, and that their judgements about success and agency are closely aligned to these self-selected criteria. This may be attributable to the way the task was presented which included an A3 project sheet divided into sections for drawing and writing (see Appendix G). This finding is somewhat surprising as a significant proportion of the lesson was given to using tools to dismantle the toys, which for many students was a new experience, as opposed to the
writing and drawing component that the children do on a daily basis. Interestingly, the explicit success criteria for the lesson involved identifying the forces pertinent to the working parts of their toy and presenting an Explanation text. These criteria were not explicitly mentioned by any of the students in the interview.

Colleen’s notes recorded student concern and heightened anxiety about failing to complete the task. Once again, specific reference was made pertaining to the difficulty they experienced in completing the written component of the lesson. In particular, a number of students were surprised by the complexity involved in writing the headings (page organisation) for each part of the task; an aspect of the activity they initially believed to be ‘easy’ (Obs. 1). The follow-up question to these responses sought ideas about providing extra teacher assistance and how the students could be supported with their written presentations. Jake was the only student to offer a suggestion which was a request to teach him ‘bigger’ words, although he couldn’t elaborate any further on this idea.

4.5 Digging deeper for student feedback

The participant’s academic ability could be broadly categorised as low, average or high achiever. While their expressive language was generally well-developed, marked individual differences were discernable in the areas of reading and writing. Irrespective of their literacy proficiency, it does not appear that the students of low or middle ability provided less detailed answers, as the data summary in Table 4.2 shows, student ability cannot be determined by examining the content or complexity of the thinking in the written accounts.

As noted in the previous section, Marcus, a student in the low ability group, chose to draw his response on his Thinkit-ticket. This decision may have been attributed to the difficulties he faced with the writing process (spelling and hand writing). Notwithstanding this possibility, students at this stage of development often elect to use illustrations, or a combination of illustrations and written words to express their ideas.
Low Achieving Group

Jake
Teacher: What did you do well?
Jake: Fors in toys I was meant to use the word fors. I said it in a difrent way fors (sic)

Marcus
Teacher: What made learning difficulty today?

(illustrated his response, the following is his verbal description)

Marcus: I drew myself with all of the noise around me. That’s what the swirls mean. When it’s noisy I find it hard to concentrate on what I’m doing. I’d like to find a quieter place where I can do my work and not get interrupted.

Average Achieving Group

Stephen
Teacher: What made learning fun?
Stephen: I had fun pulling urpart (sic) the screws.

Ava
Teacher: How could you have improved your learning today?
Ava: I could improve by using descriptive words in my leaning. (sic)

High Achieving Group

Susan
Teacher: How did your learning go?
Susan: I think my learning went really well because I put bold headings and I heard great comments from classmates. I sicseed (sic).

Ted
Teacher: What will you remember and use next time?
Ted: I will use headings and labels for my information.

Table 4.2 Thinkit-ticket written responses

Hence, it could be concluded from the data that the students of higher ability in this study were not advantaged by the descriptive feedback activities aimed at divulging their metacognitive thinking, motivations or affective responses to their learning. Indeed, it may have been prudent to discuss each of the written responses with the participants in order to gain the depth of insight that was achieved with Marcus’s self-reflection.
4.6 Using think time

‘So think-time can be silence?’

The data obtained from Colleen’s notes identified the use of ‘think time’ (Black & Wiliam, 1998; Rowe, 1974) after posing a question. This strategy was implemented intentionally to provide students with opportunities to process information, form opinions and engage in discussions. The following interaction with Susan, as noted by Colleen (Obs. 1), provides a salient example accentuating the use of think time.

Teacher: Does it fit with the learning goal?
Susan: A little bit.
Teacher: How?
Susan: Because some of the ideas have force.

Colleen notes: Teacher looks up in a questioning way and seems to be trying to think. Susan seems to take time to organize her thoughts and you let her have time. So sometimes the feedback can be silence?

Both Susan and I used think time to organize and clarify our thoughts prior to speaking. It could be argued, as Colleen suggests, that the ‘thinking’ silence is also a form of feedback. By permitting (and modeling) thoughtful pauses, the implicitness of the feedback is that a considered response is anticipated and that ideas can be complex and require serious thought. The context to the following observation involved the students receiving their newly purchased toys to play with, inspect and dismantle. There was natural exuberance and excitement which led to the impromptu sharing session at the commencement of the lesson, as Colleen notes (Obs. 1):

Teacher states, ‘This is a lesson about toys and how toys work …and we are going to use the toys we bought on our excursion yesterday.’ The children sit on floor. There are lots of questions and discussion. Feedback from teacher -no verbal responses but no indication that the thinking and questioning is unacceptable.

This is an example of think time, however, the students aren’t thinking silently and individually about a question, instead they are responding spontaneously to a statement. In doing so they are sharing, clarifying, exploring their thinking in an audible and collective way, rather than the individual, silent mode often associated with think time (Rowe, 1986; Tobin, 1987).
Another characteristic of the teacher-led feedback discussions is the approach which elicits the students’ views rather than asserting a complete knowledge about the best way to proceed, as Colleen’s field notes attest (Obs 2):

Students are looking at Chris’ model/example looking very critically. This is contestable information and one student sees a way of improving it.

The following excerpt describes an instance where the students’ views are considered and deemed viable for deeper investigation (Obs 2).

You identify what is important in the learning and the process so when you do this later with individuals it is just part of the way learning happens in the classroom.

Allow for student suggestions which can be used.
Use lots of ‘maybes’ leaving the door open for ideas.
Encourage good models. Use correct terms.

The students do not expect Chris to tell them and so when he does it has some impact.

Colleen’s observations provide an insight into the culture of the classroom where information can be contested through invitations to test assertions and opinions through open dialogue. Opportunities for students to actively influence the direction of the lesson indicate a commitment to building learner agency.

Irrespective of the classroom culture, the effect of the teacher-student power relationship (Atherton, 2010; Mayall, 1994) was present in the descriptive feedback exchanges that took place during the lessons. While a deliberate and concerted effort was made to avoid an authoritative and controlling style of teaching, on occasions, the students’ over reliance on me to provide explicit information and directions in matters relating to content knowledge, task clarification and time management was evident. Shifting the students’ perceptions from the teacher as the sole ‘controller’ of the learning to one who can facilitate and co-construct various stages of knowledge and skill acquisition (in addition to explicitly directing learning) proved difficult.

In general, the findings indicate the descriptive feedback being non-evaluative, open to suggestion, discursive and occasionally explicit. My body language and positioning was relaxed
and occurred at the students’ level when speaking with them at their work places, as Colleen noted in the previously cited example.

4.7 Using language, explicit instruction and questions to facilitate descriptive feedback conversations

Just as the rapport between the student and teacher is pivotal to the descriptive feedback process, also of major consequence is the language used, questions posed and the strategic support provided by the teacher. By cross checking the various data sets a number of features emerged that typified the researcher’s implementation of descriptive feedback. These include: the motivational aspects of learning (affective response); sustaining feedback conversations to deepen learning; and supporting student achievement by framing lessons with goals and key understandings as outlined in the following section

4.7.1 Affective feedback: The butterfly effect

The use of questions relating to the students’ emotional reactions to their learning features prominently in the classroom lessons (whole class/individual feedback conversations and Thinkit-ticket reflections) and were also deliberately incorporated into the semi-structured interviews. Similar questions were posed to the children in both forums, providing an opportunity to compare the responses given. These included:

How do you think your learning is going?
How do you feel about your learning?
Do you feel confident?
Do you feel that you are reaching your goals?
What are the fun things?
What are the difficult parts?

The answers provided by the students were of greater length in the semi-structured interview compared to the in-lesson descriptive feedback conversations. The details and sentiment contained within the answers proved to be consistent across all of the participants’ responses, even in the ‘Thinkit-ticket’ self-reflections. Table 4.3 provides a sample comparison of the participants’ responses to the similar questions posed in the various settings.
<table>
<thead>
<tr>
<th>Student</th>
<th>In-lesson response</th>
<th>Interview response</th>
<th>Thinkit-ticket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ted</td>
<td>Teacher: Do you feel confident? Ted: Yes.</td>
<td>Teacher: How do you feel about your learning? Ted: It went good. Well, I think it’s pretty good. Teacher: What makes you say that? Ted: I like what I did with all of the arrows showing what I did in different parts Teacher: How did you get your ideas for that? Ted: Well, since it took us a really long time to do it (dismantle the toy). Instead of just writing I wanted to show how difficult it was and how long it should have tooken (sic) us.</td>
<td>What will you remember and use next time? I will use headings and labels for my information.</td>
</tr>
<tr>
<td>Ava</td>
<td>Teacher: Do you feel confident? Ava: nods</td>
<td>How did you think your learning went in this activity? Ava: I felt much more confident and I knew more spelling words and I thought I could do it easier M: Yes, because I’m good at drawing, I know that, but then I need to know the words because otherwise it’s just a drawing Teacher: So, because you felt confident with your spelling, it made you feel confident about doing the writing part?</td>
<td>I could improve by using descriptive words in my leaning (sic)</td>
</tr>
<tr>
<td>Marcus</td>
<td>Teacher: What has been hard for you? Marcus: Today has been noisy and hard to think, it’s hard to think.</td>
<td>Teacher: One of the things we spoke about when we were talking last time that you would like a quieter place to go. We have done that, has it helped? Marcus: It has a lot because, I focus more and sometimes when I finish there are lots of other people mucking around when they haven’t finished and if I was on that table I would probably be mucking around too. Teacher: So does that mean your learning doesn’t go so well when you’re working with other people? Marcus: When I have to work with people it’s a little bit hard.</td>
<td># Marcus chose to draw his response. (See Figure 4.1)</td>
</tr>
</tbody>
</table>

Table 4.3 Comparison of Thinkit-ticket responses
The opportunity for reflective discussion in the interviews yielded a substantially more detailed account of the students’ affective dispositions in relation to their learning performance. The in-lesson feedback conversations competed with interruptions from other students and were also affected by the divided attention of the participants due to the demands of the task; especially the urgency to achieve completion. This became obvious in the closing feedback discussions when a number of children voiced their feelings of anxiety about not being able to complete all components of the task. Evidence of the students’ emotional response was recorded in the teacher’s self-reflection notes and was also noted by Colleen, in this exchange with Susan (Obs. 1):

Susan: At the start I was feeling anxious because I didn’t know if I would get it all done (murmurs of agreement from the class).
Teacher: How does anxious feel?
Susan: Like butterflies! (Many students nod in agreement and converse spontaneously about their mutual sense of anxiety)

The descriptive feedback discussion evoked the emotional response from the students – identified by the Assessment Reform Group (2002) as a principle of Assessment for Learning (see 2.7), and provided useful insights into their anxieties and perceptions of the task. These issues will be explored in more depth in Chapter 5.

4.7.2 Identifying and attaining learning goals

“I finally got there, but it was a bit hard.”

The Toy Technology lessons were conducted with a strong focus on meeting clearly established goals and success criteria (Wiliam, 2008). Reference to the children’s progress towards attaining the learning goals was a notable feature of the descriptive feedback conversations. Specifically, this involved identifying the forces that acted on their toys and writing an Explanation report to present their findings. There were many sub-layers to this activity that made it a complex and demanding task. Colleen concurs (Obs. 1): ‘I think you (teacher) have been very consistent about learning goals and the processes in this pretty complex activity.’ The participants’ responses to the ‘end goal’ indicated their awareness of the task’s various components and, to some extent, the self-management that was required to achieve a satisfactory result. The following examples
of descriptive feedback (AR 1) provide useful insights into the students’ understanding of the learning goal and their sense of agency in striving to achieve it.

Teacher: The main goal was to find out how forces work in toys and to write that as an Explanation text. How did you go?

Ted: I went good because in this bit I sort of explained how the feet moved and how the forces on the thing worked. I said when you twist the thing the force goes into the cog and then another cog and then the feet moved.

Ted’s answer shows a measure of composure and confidence in his learning ability. He has a clear understanding of the task and how it applies to his specific situation. Susan’s response is equally assertive and coherent (AR 1).

Teacher: The main goal was to find out how forces work in toys and to write that in an Explanation text. How do you think you are managing that?

Susan: OK.

Teacher: What makes you say that?

Susan: It’s set out quite well and the information ties in…and the headings help because if you just said ‘in the pull back car there is a little box with 2 cogs that vibrate and turn the wheels’.

The following response from Marcus also signifies the purposefulness and confidence with which he worked in attaining the lesson’s goal (AR 1).

Teacher: Did you achieve your goal?

Marcus: Yes.

Teacher: Which part shows me you achieved that goal?

Marcus: Um, this part. (Marcus confidently read a sentence about forces in his toy.)

Ava’s response, on the other hand, indicates a sense of relief at getting to the end of the task. Her perseverance and strategic thinking is also evident in her progress towards the learning goal (AR 1).

Ava: I finally got there but it was a bit hard at the start when I didn’t really know what I was going to write about?

Teacher: So how did you help yourself to get to the goal when you were unsure at the beginning?
Ava: Well I thought that I could do the outside first and then I could do the inside ‘cos it’s telling you a bit more about the car.

Stephen also provides some contradictory and somewhat confusing answers when asked about his progress towards achieving the lesson’s goal (AR 1).

Teacher: Did you meet that goal?
Stephen: No.
Teacher: How could you meet that goal?
Stephen: I could use the word force.
Teacher: OK, how do you think you are going with that?
Stephen: Good.
Teacher: What makes you say good, because you haven’t actually used the word force?
Stephen: I did some planning out.

These examples highlight the extent of each student’s knowledge of the learning goal and the degree of confidence they displayed in their efforts to achieve it. Their sense of agency in the task is readily identifiable even though it is somewhat misplaced in Jake’s case, as he did not fully understand the learning intention. Another theme to arise from the students’ responses relates to the personally constructed criteria they identified in order to achieve successful completion of the task. Indeed, each student was able to construct criteria upon which they judged personal success. They did not, however, refer explicitly to the success criteria written on the whiteboard relating to composing an explanation text and identifying push-pull forces (although these components were implied to some extent in their answers). The findings indicate that the students’ personally constructed criteria appeared more influential in directing their approach to the task. This finding also correlates with the students’ preoccupation with spelling and general page presentation as criteria for success as outlined in 4.4.

4.7.3 Big understandings and essential questions

“I can actually look at the big questions and think ‘What makes a good toy’ and actually know what we are supposed to be learning.”

The bold wall display outlining the inquiry unit’s Big Understandings and Essential Questions became the main focal point for change as the second cycle of the action reflection model commenced (see Figure 3.1). The students’ ability to monitor their progress in attaining an identified learning goal had already been determined in the previous interviews and descriptive
feedback conversations. With this in mind, the objective of designing the next teaching and learning episode, based on clearly defined questions and understandings, was undertaken. The understanding statements and questions listed in Table 4.5, which had been displayed prominently from the beginning of the Toy Technology Unit, were given greater priority in the second phase of the lesson.

<table>
<thead>
<tr>
<th>Big Understandings</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Most toys have some way of moving or being moved - often it is a push pull force</td>
</tr>
<tr>
<td>• Forces are all around us</td>
</tr>
<tr>
<td>• The technology design process helps people to solve problems and meet peoples’ needs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What is a toy?</td>
</tr>
<tr>
<td>• What makes a good toy?</td>
</tr>
<tr>
<td>• What was in the mind of the inventor?</td>
</tr>
</tbody>
</table>

**Table 4.4 Example of the wall display in the classroom**

Throughout this lesson the students were required to link their learning to the generalisations and provocations on display (Table 4.5), which was then explored further in the feedback conversations during the second semi-structured interview. The feedback presented in Table 4.6 reveals quite conclusively that the students felt supported by the use of explicit references to major conceptual understandings and guiding questions for the inquiry. Incorporating this aspect into the descriptive feedback discussion revealed that the students could construct the way forward on their own terms as well as with assistance from me.
<table>
<thead>
<tr>
<th>Have the questions and understandings helped you to learn?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Susan</strong>  Yes, because I might think ‘Why don’t I just discover why were toys were made?’ I can actually look at the big questions and think ‘What makes a good toy’ and actually know what we are supposed to be learning.</td>
</tr>
</tbody>
</table>
| **Ava**  Ava: Yep.  
Teacher: How?  
Ava: Well I can explain that an information text is telling you stuff, how you made it or what you have to do before it happens and what you think about it. |
| **Marcus**  Marcus: Well when I’m trying to do something about the toys and you have to do something about the big questions. They help because they are up on the wall.  
Teacher: So you can see them? How is that helpful?  
Marcus:Um because if I had to look and see what I had to do to write down I’d have to look up on the wall. |
| **Stephen**  Well it makes me understand more about the process we’re learning about for the term like toys and the human body and I like to find out every one of them. My favourite one to understand is what was in the mind of the inventor (Toys topic).  
Teacher: So you do think about them then?  
Stephen: Yeah.  
Teacher: Do they cross your mind when we are doing the topic?  
Stephen: They’re just there and I look at them sometimes. |
| **Ted**  Well it does give me something to think about, to make me do something. Like it makes me do stuff. Like if I was just doing something like free time or something like that, and checking your books or finishing stuff at the end of the year because sometimes you have to do that, what I could do is look up at the big questions. And I if I had a work sheet about it I could look back when I did my learning and write what I’ve learnt and stuff. |

**Table 4.5 Feedback pertaining to big understandings and essential questions**

These responses highlight the impact of framing the lesson with key questions and understandings. Ted and Susan used the information to probe their thinking about the topic. The strategy of explicitly stating, displaying and referring to the main ideas prompted their metacognitive thinking which is evidenced in the way they questioned themselves about their own understandings as a result of the visual display. Stephen intimates that the information in the display foregrounds the learning that is going to take place. It seems that the benefit for him is the clarification the understandings and questions provide, not just at the beginning of the inquiry unit, but throughout the process.
Ava used the statements and questions as criteria for gauging her understanding of the topic. Her response also indicates that she is checking her thinking (metacognition) about the central ideas framed by the Big Understandings and Essential Questions. However, Marcus’ use of the display is more pragmatic. He relies on the wall display to maintain his attention on the task and as an additional spelling resource for augmenting his sentence writing. This correlates with previous responses from Marcus where his focus is on word knowledge (Obs. 1) and the level of distraction he is experiencing in class (refer to Table 4.2).

In conclusion, the data demonstrate that directing the teaching and feedback through the Big Understandings and Essential Questions does guide and support the students. The major influences on the learning included: promoting metacognitive thinking; provoking deeper thinking about the ideas underpinning the topic; and providing helpful prompts to assist with the spelling and writing process. Colleen concurs with these findings, and notes (Obs. 2):

There is lots of written support on the walls. I wish I could get people to see the value of this. That learning is not a memory test.

Most notably, opportunities became available for students to engage in relevant and personalised feedback that addressed their motivational and cognitive needs (Brookhart, 2008) as indicated by their use of the Essential Questions and Big Understandings.

4.8 Summary

This chapter summarised the findings of the study about my use of descriptive feedback with students for constructing the way forward. In summary, the findings revealed:

- the efficacy of providing immediate feedback;
- the layering of feedback, feed-up and feed-forward flow of statements to students
- the students’ ability and preparedness to provide their own descriptive feedback about their personal priorities and concerns;
- the impact of the power relationship and the importance of establishing a rapport based on trust;
- the value of waiting and providing think time to surface student thinking (Bergman & Bergman, 2010; Rowe, 1986); and
- the use of language and questioning to facilitate descriptive feedback conversations.
The reliance on ‘talk’ in communicating feedback to and from students is a significant feature to emerge from the data. Indeed, the dependence on reciprocal teacher-student talk for effecting productive outcomes and generating a positive learning culture based on trust is readily discernable. The data also provide evidence of the factors which impact on the students’ metacognitive and self-regulatory capabilities, such as the use of Essential Questions, learning criteria and goals. The next chapter presents a discussion of these findings in relation to the current body literature on feedback in formative assessment.
CHAPTER FIVE: DISCUSSION

What really counts is what happens after the assessments. Just regularly checking your blood pressure does little to improve your health if you do nothing with the information you’ve gained. What matters most with formative assessments is how students and teachers use the results (Guskey, 2008, p. 28).

5.1 Introduction

Just as Guskey (2008) urges teachers to make tangible and actionable decisions from assessment information, the same can also be said for the discussion which asks ‘So what?’ of the findings chapter. In this chapter the data findings are scrutinised in order to interpret the emergent patterns and investigate the possible implications for my practice. In particular, the nature and content of the dialogue, with and among, the students, is examined for its bearing on the effectiveness of descriptive feedback for improving student learning. Rodgers (2006) asserts that in order to encourage students to share their thoughts, feelings and experiences of learning it is imperative that the culture of the classroom is one that promotes talk around such issues, in a supportive and non-judgemental way. This key ingredient for effective descriptive feedback becomes a throughline for this study and the ensuing discussion.

The discussion will explore four key components:

1) the timing of feedback, in particular, the usefulness of in situ feedback as opposed to feedback that is received after the learning episode;
2) the affective experience;
3) ‘Feedback that fits - a double-barrelled approach’ (Brookhart, 2008); feedback directed at students’ cognitive and motivational needs; and
4) the impact on the metacognitive and self-regulating abilities of students.

Discussion will be contained within, and bound by, the central tenet of this project, which is to explore the effectiveness of my descriptive feedback with students. In addition, it is my intention to seek insights into the participants’ experiences of engaging in descriptive feedback discussions to inform further practice.
5.2 Don’t delay – Timing of feedback

The findings revealed that the students demonstrated a greater inclination to act on descriptive feedback instructions delivered during in situ classroom discussions than to feedback strategies relayed through written remarks, self-reflections and post lesson feedback conversations. The feed-forward instructions supplied during the lesson were adopted by four of the six participants. Conversely, the descriptive feedback provided in the post lesson interviews and self-reflections became obscure, evidenced by the fact that four of the participants could not recall the details of these discussions at a later time. As a result, the post lesson reflections were, to a large extent, ineffective due to the interim period of seven days between the feedback event and the ensuing lesson.

A contributing factor that may have restricted the children’s ability to recall, and act upon, specific details of a feedback loop includes the complexity of the task and the cognitive demands placed on the students to absorb and utilise the feedback. These factors point to issues involving working memory (Baddeley, 1986; Cowan, 1999; Gathercole, Pickering, Ambridge & Wearing, 2004) and the possibility of memory decay through lack of activation (Woolfolk & Margetts, 2010). Working memory processes current information with previously learned information stored in the long term memory. When working memory is regularly activated, the transfer of new knowledge to the long term memory occurs more readily. Conversely, Gathercole et al. (2004) found that when there is infrequent activation, information can easily be forgotten. In this study, the students were unable to activate their memory in relation to the task and its various requirements due to the eight day delay between lessons. One of the key requirements of their learning was to recall and utilise the descriptive feedback from the initial lesson. The transfer of the descriptive feedback to long term memory was lacking in most of the participants, which was evidenced by their inability to recall what was said to them or written on their Thinkit-tickets. It is reasonable to suggest that the students may have been more successful at utilising the feedback information had they been given opportunities to revisit the lesson sooner or more often, in order to use their long term memory and activate their working memory with regard to the feedback advice and requirements of the task.

The complexity of the lesson may also be a possible cause for the low up take of feedback advice. A number of challenging tasks were set for the students, which included: compiling an
information report; completing labelled diagrams; using small hand tools to dismantle the toys; working cooperatively in pairs and meeting time constraints of the lesson (40 minutes). It is also likely that the cognitive load (Woolfolk & Margetts, 2010) was too demanding and possibly unmanageable for children of this age. Providing meaningful personal descriptive feedback in a complex lesson such as this may have overloaded the students’ capacity to process all of the information and meet the expectations placed on them. Furthermore, it is possible that the participants overlooked the descriptive feedback information, given their early stage of development for understanding their cognition (Callingham, 2008), and their limited experience in applying self-regulating strategies such as managing time, checking for understanding and incorporating cooperative learning skills.

Interestingly, literature on the timing of feedback is inconclusive (see for example, Kulhavy & Anderson, 1972; Kulik & Kulik, 1988; Hattie & Timperley, 2007; Shute, 2008). Kulik and Kulik (1998) purport that “In spite of the vast amount of attention given to feedback timing over the years, researchers still disagree about its importance in human learning (p.79).” Wiliam (2009) however, asserts that the shortest cycles of formative assessment information have the greatest impact on student learning. The findings of this study concur with Wiliam’s assertion. The immediacy of feedback to students, particularly when provided in situ (either at point of need as requested by students or through teacher initiated intervention), appeared to impact positively on their ability to construct the way forward. This study showed that the students were more likely to adopt the feed-forward, next-step decisions while immersed in their learning, as opposed to the post lesson descriptive feedback discussions which also proposed strategies or suggestions for improvement. Guskey (2008) maintains that formative assessment information is of limited value unless it can be used by teachers and students. While the feedback given by the students in their Thinkit-tickets and exchanged in the interviews provided me with useful information post lesson, it did not support the learning needs of the children as they could not recall with any certainty, the details of the feedback due to the delay between lessons. Hence, the feedback in this delayed form was largely ineffective. The data show that one of the predetermining factors for the uptake of assessment information was its timing, with the effectiveness most noticeable when the feedback was provided in-lesson where it could be acted upon immediately by the students.
5.3 The affective experience

“it’s like butterflies in my stomach.”

When the teacher fixes his attention exclusively on such matters as these (the acquisition of skills and knowledge), the process of forming underlying and permanent habits, attitudes and interests are overlooked. Yet the formation of the latter is more important for the future. (Dewey, 1933, p.58)

The participants’ emotional connection to their learning, to which Dewey alludes, was sought through the descriptive feedback exchanges. The previous chapter documented these exchanges and provided insights into the participants’ sense of efficacy as learners (see 4.7 and 4.7.1). The effectiveness of the descriptive feedback is now discussed in relation to five key insights about the affective experience.

- amplifying self-talk;
- actual and intended learning;
- success criteria – teacher versus student; and
- promoting trust.

5.3.1 Amplifying student self-talk

The individual and whole class descriptive feedback events provided opportunities for drawing out student self-talk and making it audible, not only to the teacher, but also to the participants themselves and their classmates. This was evidenced by Susan’s disclosure at the conclusion of the first lesson about feeling anxious during the task. When I asked her to tell me more, she revealed, ‘It’s like butterflies in my stomach.’ (Obs. 1) Other students nodded in agreement.

A case can be made for the purposeful elicitation of students’ conceptions about the nature of tasks, especially when anxiety, as expressed by Susan and affirmed by her classmates, prevails. The descriptive feedback conversations also revealed the students’ personally constructed criteria for success (which differed from the explicit criteria that had been presented at the beginning of each lesson) and surfaced their self-projections about their ability to perform the tasks. The concept of success criteria and students’ self-constructed criteria are discussed later in the chapter (see 5.3.3).

Being able to gauge the students’ level of anxiety proved helpful in pacing the unit of work for the class and resulted in a formative evaluation of the content and the complexity of the
sequentially planned tasks. It also revealed the degree of trust the students shared with each other, and me, in feeling secure enough to talk about the issue. Following Susan’s ‘butterflies’ admission, the children bubbled into spontaneous conversation and wide-spread agreement that they also experienced similar feelings of anxiety about managing all of the lessons’ requirements. The ‘butterflies’ episode also highlights the importance of developing a classroom culture (Ritchhart, 2002) that enables the affective responses of the students to be heard. This episode reflects aspects of a dialogic pedagogy that embraces the principles of collective, respectful, reciprocal and purposeful talk for extending student learning (Alexander, 2003). As a result of listening to the students’ feelings, the next stage of planning for the toys unit was reviewed and refined. Furthermore, a segue was created for follow-up descriptive feedback loops with individuals based on their disclosures.

5.3.2 Actual and intended learning

The findings suggest that the use of descriptive feedback proved effective in exposing the gap between the intended learning and the actualised learning that took place (Rodgers, 2002). The following conversation illustrates this gap with regard to Thinkit-tickets and Stephen’s lack of understanding about their purpose.

Teacher: Do the Thinkit-tickets help you?
Stephen: Well, I don’t really understand why we do it.
Teacher: That’s very important for me to know.
Stephen: Because I think it’s just some learning, like how to write different words and stuff like that.
Teacher: So you are still not sure why we would stop to look back into our learning?
Stephen: Yeah.

Stephen’s admission was surprising, as the implementation of the tickets and the reason for their use (reflecting on prior learning to direct and support future learning) had been explicitly stated and discussed with the class on a number of occasions. Just as Stephen had not understood the purpose for using Thinkit-tickets, it is reasonable to expect that other students had missed the point also, demonstrating again the importance of finding ways to connect with student uncertainty and providing the means by which clarification of the lesson’s aims and purpose can occur. In this instance, using whole class direct instruction for explaining the self-regulatory
strategies designed to improve achievement, proved to be ineffective for Stephen, and possibly for other students as well. Research on metacognitive development is extensive (see for example Flavell, 1979, 1999; Kuhn, 2000; Schneider, 2008) however, it is useful to acknowledge that metacognitive abilities in students of a similar age vary considerably and can be affected by a child’s previous experiences and individual developmental differences (Woolfolk & Margetts, 2010). These factors could account for Stephen’s lack of awareness or knowledge about the Thinkit-tickets and their use. Stephen continued to use the Thinkit-tickets unwittingly, without making the connection between the metacognitive strategy and their relevance to the next stage of his learning. Through this finding, the need to clarify the purpose for using metacognitive approaches such as Thinkit-tickets and descriptive feedback discussions became more obvious.

5.3.3 Success criteria – teacher versus student

The findings expose the importance of the students’ personally constructed success criteria as opposed to the teacher’s nominated criteria for success. In the first round of interviews and self-reflections, the participants emphasised the literacy demands (spelling and punctuation), presentational concerns, time-management issues and manual aspects of the task (using hand tools such as screw drivers) as the dominant learning challenges; superseding the learning intention of exploring and explaining the nature of forces on toys. Ava’s response demonstrates the focus she placed on the written component of the task.

Teacher: How did you think your learning went in this activity?
Ava: I felt much more confident and I knew more spelling words and I thought I could do it easier.
Teacher: So, because you felt confident with your spelling, that also made you feel confident about doing the writing part?
Ava: Yes, because I’m good at drawing, I know that, but then I need to know the words because otherwise it’s just a drawing.

Ava attributes her feelings of success to her improved spelling performance. She was aware that her diagrams alone were insufficient and that written explanations and labeling were required. The deep thinking in relation to forces and energy became subordinate to her compulsion for ‘knowing the words’. Many students found the cognitive demand of writing quite arduous (Woolfolk & Margetts, 2010) hence, completing the worksheet (see Appendix G), rather than meeting the success criteria most likely provided them with a strong sense of achievement.
Indeed, none of the participants judged their success against the criteria that had been discussed and prominently displayed on the classroom whiteboard. This highlights the tension that exists between the intended learning outcomes and the strong affective responses from the students which determine their priorities for the lesson. This study showed that the students’ perceptions about the task, and the demands they faced, replaced the success criteria that was explicitly conveyed. In effect, the intended purpose of the lesson was incongruous with the students’ actual motivations and intentions. It can be reasonably assumed that this situation may have occurred previously, suggesting the need to regularly reiterate the purpose of each lesson and reinforce the criteria upon which success is judged (Black & Wiliam, 2009; Burke, 1999; Leahy, Lyon, Thompson, & Wiliam, 2005). Descriptive feedback conversations proved effective in providing these insights. This formative assessment information about the students’ personal experiences of success and failure was given willingly and allowed for immediate decisions to be made regarding planning modifications in the Toy Technology unit.

Disparity between the explicit success criteria and the students’ conceptions about success (Muis, 2007) was an issue as it overshadowed the explicit purpose of the lesson and diverted the students’ attention from the learning which had been intended when the lesson was designed. At the same time the descriptive feedback provided examples of the students’ own needs and interpretations. The following section discusses this ‘conflict of interest’ in the learning process.

5.3.4 Promoting trust

The interventions conducted with the students and recorded in the findings indicate their willingness to participate in the descriptive feedback process. While other factors play an integral role in promoting student thinking and learning such as stating success criteria, establishing learning goals and checking for understanding (Leahy et al., 2005; Fisher & Frey, 2009; Wiliam, 2008), the starting point for the identifying student improvements began with the feedback conversations. The act of checking-in, resisting evaluative comments and working collaboratively to improve learning based on a shared understanding of needs, prompted an efficacious response from all of the participants. Exploring the students’ feelings, which in turn, exposed their anxieties and learning needs, required them to place their trust in me and the descriptive feedback process in order to advance their learning. The interview data suggest that the students felt secure about making such disclosures and had sufficient confidence to know that
they would be supported with in the class setting. There was a need to be mindful of listening first without judgment (Rodgers, 2006) while planning for future feedback interventions based on the students’ concerns. This was achieved by asking: How are you going with your learning? and How Can I help you more? (Int. 1), followed by Do you remember what we spoke about last time? in the second round of interviews. The data also showed that when Ted, Jake, Stephen and Susan (Int 2) had forgotten the previous descriptive feedback conversations, the observational notes assisted in revisiting earlier discussions, as evidenced by this exchange.

Teacher: You said you didn’t think your learning went so well because you didn’t get much writing done. How do you feel when that happens?
Stephen: I get really angry with myself because I want to write lots more.
Teacher: Do you get annoyed with yourself at the time or when I point it out to you?
Stephen: At the end when you remind me

Here Stephen demonstrated his preparedness to reveal his emotional reaction to the lesson and his performance within it. This excerpt is indicative of the students’ preparedness to share their feelings and frustrations, which suggests that a healthy level of trust prevailed in the teacher-learner partnerships.

5.4 ‘Feedback that fits - a double-barrelled approach’ (Brookhart, 2008) feedback directed at students’ cognitive and motivational needs
According to Brookhart (2008), teacher feedback should address the two major areas of cognition and motivation in formative assessment. Brookhart contends that feedback based on cognition assists students to know where they are in their learning, while feedback couched in motivational terms promotes feelings of control and builds self-efficacy. In order for the feedback to ‘fit’ the learner the information they received must be readily understood otherwise it misses the mark and may even have a negative impact on the learning (Hattie & Timperley, 2007). In the following section the effectiveness of the descriptive feedback and its fit in terms of: comprehensiveness, relevance, specificity, reciprocity, and ambiguity, is discussed

5.4.1 Comprehensive feedback
Comprehensive feedback in this study refers to the suite of feedback strategies and approaches that can be used to provide information about a student’s progress, sense of agency and levels of understanding. The maxim of providing ‘feedback that fits’ (Brookhart, 2008) resonated with the
findings and prompted an avoidance of using unidirectional, instructive dialogue, which prevails in most classrooms today (Alexander, 2003; Mercer, Dawes & Staarman, 2009). Instead, new ways of engaging in meaningful, collaborative formative assessment were sought. The findings suggest that Brookhart’s maxim could be expanded to incorporate the notion that students can become the source of the feedback in the first instance, rather than teachers being the initiators. Indeed, feedback may ‘fit’ best when it is constructed by the learner first, as opposed to being formulated and delivered by the teacher. The students proved capable of providing initial feedback and, in a number of instances, revealed a tendency to assess their performances from a personalised and comparative perspective (Jake Int. 1, Susan Int. 1). By combining an Assessment as Learning approach, with descriptive feedback from the students and me, a more complete picture was formed in relation to the students’ progress and feelings of self-efficacy at various stages in their learning. The following reflection illustrates the varying roles peer approval, comparison and interaction play in determining personal success.

![Figure 5.1 Susan’s Thinkit-ticket reflection](image)

Susan’s example also supports the strategy of combining peer assessment with teacher feedback and student self-appraisal as a comprehensive approach to formative assessment. In addition to revealing the influence of peer involvement in the learning process, these feedback exchanges with Marcus and Stephen demonstrate their ability to devise personally constructed actions to improve their performances (Int 2).

Teacher: One of the things that we spoke about when we were talking last time is that you would like a quieter place to go. We have done that, has it helped?
Marcus: It has a lot because, I focus more and sometimes when I finish there are lots of other people mucking around when they haven’t finished and if I was on that table I would probably be mucking around too.

Teacher: So does that mean your learning doesn’t go so well when you’re working with other people?

Marcus: When I have to work with people, it’s a little bit hard.

Teacher: What could you do to help yourself?

Stephen: Look at some other work if you’re allowed to.

Teacher: Use other models – that’s a really good strategy. Well, I’ll catch up with you again soon to see how you’re going with these improvements and ideas.

The effectiveness of a comprehensive approach also involves refraining from evaluative comments, phrasing open-ended feedback questions and raising the students’ agency by acknowledging and, where appropriate, supporting their decision making. The imperative of creating a supportive classroom culture (Ritchhart & Perkins, 2008; Ritchhart, 2002; Rodgers, 2006) that invites students to engage in a comprehensive feedback process, and further, enables them to participate effectively within it, is implicated again. The students in this study were familiar with a number of these strategies and had previous experience of self-reflective routines at various stages of their learning. It is likely that these previous experiences contributed to the frankness and honesty of their responses.

5.4.2 Identifying learning needs through comprehensive feedback

The combination of reflective Thinkit-tickets and post lesson interviews prompted a closer examination of Marcus’ cognitive ability. Marcus’ difficulty in shutting out figure ground noise and his inability to cope with the distraction of general classroom activity were revealed in the first post-lesson interview and reinforced again through his Thinkit-ticket self-reflections. This discovery resulted in a strategic change to the approach used to support his learning and initiated a course of remediation, beginning with a full psychological assessment in order to gain a profile of his learning capabilities. The complementary combination of the written and verbal descriptive feedback strategies provided an insight into the extent of Marcus’ discomfort that would not have been obtained by relying on a single feedback method. Without Marcus’ Thinkit-ticket revelation, it is doubtful that the interview alone would have instigated the decision to undertake
a full cognitive assessment and formulate an individual learning plan (ILP) for his classroom learning. Rodgers (2006) advocates a combination of written and verbal feedback, to and from students, in order to gauge their efficacious and conative responses to their learning. She states, “Feedback can be written or oral or both, the point is to gather as much information about the learner’s learning as possible” (p. 220). Rodgers’ position raises a further issue, which presumes that teachers have the skills and knowledge to elicit such responses from students and moreover, that students feel comfortable providing such personal information about their learning. Researchers have argued that teachers often inhibit this process through their lack of knowledge about, and practice in, questioning (Black & Wiliam, 1998; Leahy, et al., 2005). Little has changed according to Hawe, Dickson & Watson (2008) who maintain that “…opportunities for students to become ‘insiders’ (Sadler, 1989) in the feedback process and to exert agency in their learning is the exception rather than the rule” (p.56).

The students’ participation in the feedback loops and the personal nature of their responses indicate that they did, to some extent, become insiders in the feedback process, which yielded information that constructed a way forward in terms of their cognition and motivation.

5.4.3 Specificity

The effectiveness of combining descriptive feedback with an Assessment as Learning approach can be attributed, in part, to the specific and pertinent nature of the instructional and observational feedback statements. That is, the feedback provided to the students took into account task definition (Muis, 2007), as well as their emotional response and their cognitive engagement within the lesson sequence. Shute (2008) claims that obscure or ineffective feedback to students may, in fact, detract from their performance. He advises that,

Feedback lacking specificity may cause students to view it as useless, frustrating or both. It can also lead to uncertainty about how to respond to the feedback and may require greater information-processing activity on the part of the learner to understand the intended message (p. 158).

Despite a determined effort to avoid this situation, some of the feedback loops conducted with the students reflected Shute’s admonition of providing ill-conceived or unintelligible feedback.
This was apparent with Stephen who was unable to comprehend or retell the meaning of my written Thinkit-ticket feedback response in Figure 5.2.

Figure 5.2 Stephen’s Thinkit-ticket reflection

In a follow-up conversation Stephen’s uncertainty about the details of the feedback becomes apparent (AR 2):

Teacher: Did you remember the feedback I gave to you on your Thinkit-ticket?

Stephen: Ah, not to talk to anyone and to write a bit more.

Teacher: Not quite, there was something I wrote, did you understand what I was saying?

(Colleen notes Obs. 2: Teacher observes – Stephen rereads the teacher feedback comment on Thinkit-ticket.)

Stephen: To stay in a good place and not to talk to anyone and write a little bit more.

Teacher: OK, when I wrote this and asked you to think about what you could do and come to me with your ideas, did you think about doing that or forget about it?

Stephen: I forgot about it.

Stephen did not undertake the action suggested on his Thinkit-ticket. The problem was attributable to his inability to deconstruct the message sufficiently, in order to identify the
specific cognitive action required to achieve success, irrespective of the simplicity of the phrasing and the familiarity of the language used in this intervention.

On the other hand, there is some evidence to suggest that descriptive feedback strategies adopted for this study proved quite effective in sustaining dialogue in a mutually constructed way that provided clarity for the students and made their thinking visible (Ritchhart, Hadar & Turner, 2009; Ritchhart & Perkins, 2008), as the exchange with Susan indicates (Int 2).

Teacher: When you use the Thinkit-tickets does it help you to learn?
Susan: Yep.
Teacher: How does it help you?
Susan: Well it helps me to reflect back on what I did and remember to use it again, like designs…
Teacher: Do you read the comments (on the Thinkit-tickets) and think about them?
Susan: Um, I …when I get it back I read my writing here and then I look at your comment and see how they match and how that could help me.
Teacher: Does that help you to learn when I make comments about what I see you doing?
Susan: Yes, because I’m not sure if the teacher really knows what I am actually trying to tell. That I am trying to tell them this and they actually write a comment ‘do you mean this or do you mean that?’ so I can actually understand how the teacher understands it.
Teacher: So, you’re saying something and I’m saying something and we get a chance to talk about it.
Susan: Yep.

Susan’s advanced literacy skills assisted her to process written information more readily than the other students and she is able to provide helpful insights into the descriptive feedback process. The implementation of Thinkit-tickets assisted her to establish some congruency between her self-assessment and my interpretation of her reflections. In this way Susan was ascertaining the level of my understanding of her needs. This was an unexpected outcome and added another dimension to the use of the Thinkit-tickets in the classroom, particularly with regards to promoting trust (Bryk & Schneider, 2002; Lee & Schallert, 2008) with the students and enhancing individualized reciprocal dialogue.
One way of providing specific feedback that fits is to ensure that learning goals are clearly and explicitly relayed to the students. Feedback is then provided in relation to the goals, thus revealing any gap that exists between the student’s achievement and the desired end point of the learning (Black & William, 1998; Brookhart, 2008; Hattie & Timperley, 2007; Leahy et. al 2005). A significant finding to emerge from the data was the distinctive and sequential pattern of: feedback – (Where am I now?), feed-up – (What am I trying to achieve?) and feed-forward – (How can I close the gap?) exchanges (Atkin, Black & Coffey, 2001) during the individual discussions conducted with the participants. Colleen Abbott, in her role as the non-participant observer, also noted a similar pattern in her observations of my dialogue with the whole class (Obs. 1). Likewise, the students’ performance in this unit of work was enhanced by the provision of in situ, relevant and specific feedback, referenced against clearly established goals. The goals, in turn, were framed by Big Ideas and Essential Questions (Wiggins & McTighe, 2006) stated at the commencement of each lesson. The establishment and conveyance of learning goals bounded the learning and provided the backdrop for all feedback, feed-up and feed-forward statements. In the first round of observations Colleen noted that the lesson opened with a brief discussion about the learning intention and an exploration of the following Big Understanding: Push-pull forces are all around us. The students were also guided to use their knowledge of Explanation texts to record their discoveries. Colleen observed that the feed-up instructions were quite explicit at the point of break-out from the floor to the work places. She noted that the task was set and the feedback to the students was clear and precise.

The strategic intention at this point was to convey, as clearly as possible, the learning intentions for the lesson and the criteria by which the students’ performances would be judged (Clarke, 2000; Clarke, Timperley & Hattie, 2003). Interestingly, the research pertaining to goal oriented learning emphasizes the importance of success criteria and clearly defined goals from which teachers can formulate their feedback. This study suggests that the success criteria and the use of any other signals to direct learning, such as timing prompts, are not the sole prerogative of the teacher for use in gauging progress or performance. Students can also regulate, appraise and offer feedback on their learning using the same criteria. This was evident when two students cried out with obvious delight, “Mr D, we broke through!” (Obs. 1). The exuberant figurative and literal exclamation related to their success at dismantling their toy car, thus enabling them to confirm or reject their assumptions about the forces required to power their toy. The notion of
comprehensiveness (see 5.4.1) appears again in this episode, reinforcing the assertion that students can be the initiators of feedback when embracing a broad view of feedback strategies and approaches. The students’ own discoveries and unstated success criteria also added to their sense of efficacy, as Ted’s comments show.

Ted: Well, my spinner didn’t work out so well but, um, I thought it went quite well. I learnt that I kind of know how things need to be balanced and what you need to do to make them balanced. And if I see something like that again I will make something quite different, cos I thought it wasn’t balanced properly.

The success criteria of using the tools safely and recording their observations were explicitly stated as necessary accomplishments for task completion. In the following example (Figure 5.3), Jake reflected on his performance based on the specified criteria of identifying the force required to make his toy work.

Figure 5.3 Jake’s Thinkit-ticket reflection

Jake has inadvertently provided an opening for conducting a descriptive feedback conversation based on his interpretation of the requirements for the task. Brookhart (2008) maintains that feedback to students should be conveyed in such a way that it can be understood and acted upon. Success criteria and learning goals were helpful for framing some of the feedback and influenced the pattern of feedback, feed-up and feed-forward sequence of responses to the students.

5.4.4 Reciprocity

A key feature of formative assessment includes the reciprocal flow of feedback to, and from, the learner (Gardner, 2006). The scope of verbal exchanges reveals some evidence of this
reciprocity. However, the conversations tended towards a response pattern of: teacher initiated feedback – student response – teacher feed-forward (IRF) identified Sinclair and Coulthard (1975) response in almost every instance, notwithstanding the invitations for students to initiate a feedback loop in their own right, in order to share their next step achievements. It is possible to conclude that a more traditional conception of the teacher-pupil relationship prevailed, whereby the teacher is perceived as the senior and more expert member in the learning partnership. This situation demonstrates the difficulty of reassigning or repositioning the roles in attempting to operate within the idealized notion of the ‘teacher as facilitator’, as outlined in Chapter 2. Although the scope of this thesis does not permit a lengthy discussion on positioning theory (Davies & Harre, 1990; Ritchie, 2002), it accords that the students would have assigned themselves to a less powerful role during the discursive feedback interactions. It is feasible that I was perceived as holding the authority in this context as a result of possessing greater academic skills, knowledge and experience compared to the students (Cohen, 1994). The suggestion that the students deferred to the authority of the teacher and position themselves reflexively is a reasonable one. It might also be argued that the roles assumed by the participants in the descriptive feedback conversations were designated, to some extent, by the teacher (interactive positioning), as a result of initiating all of the feedback loops.

While conscious of promoting a practice of facilitation and collaboration, my influence cannot be discounted as a contributing factor to the generally unidirectional nature of the feedback discussions. The cultural and social conception of the traditional roles assumed by teachers and students still prevails (Lyle, 2008), despite recent curriculum reform efforts aimed at promoting students as active and productive learners in their own right. Approaches to Personal Learning (Victorian Essential Learning Standards), Assessment as Learning (Earl, 2003), Learning to Learn (South Australia Education Department, 2002) and Project Zero’s (2004) research into Visible Thinking routines are examples of ongoing developments which not only recognize, but also promote, students as key stakeholders and major investors in the teaching and learning process. Steering away from the ‘banking model’ of education, where ‘teachers as experts’ impart knowledge to their passive learners (Freire, 1972), proved challenging. Exploring the conception of facilitation and hoping for greater reciprocity with the students was not easily achieved. A major pedagogical, cultural and ideological departure from the embedded notions of
the roles undertaken by teachers and students in a learning relationship would be required to effect significant change within this setting.

The effusive response from the students who made a ‘break through’ discovery with their toy, and the following response from Ava (AR 1), do however, provide simple demonstrations of the reciprocity of feedback which deviates from the most commonly used IRF classroom talk pattern (Sinclair & Coulthard, 1975).

Teacher: Let’s go back and have a look at the learning you did. Do you remember what we spoke about last time when I was talking to you about how you felt about your learning?

Ava: (Nod)

Teacher: What do you think has got better?

Ava: Well um I think it’s because I know more words. It makes it easier and I can think a little bit more.

Teacher: I remember you spoke about that last time. Why are the words important to you?

Ava: I just think if you know more words, you can publish… cos later on if you can’t read your own work, who can?

Teacher: So it is important for you to be able to write what you need to write and understand it?

Ava: Yeah.

Ava was able to provide feedback information about the improvements she made which directed her learning in a personally meaningful way. Brookhart (2008) supports a ‘double-barreled’ approach which aims to support students’ understanding of both the cognitive factors that assist task completion and the motivational factors that assist students to maintain agency during the learning. This exchange shows a balance in the amount of dialogue delivered by both parties and is devoid of evaluative remarks and teacher praise which often typifies IRF responses (Johnston, 2004).

Chapter 2 proposes a conception of descriptive feedback that combines student self-reflection with teacher observations and guidance as further support for learning. Ritchhart (1997) also maintains that a student’s affective response to cognition must be recognized and developed in order to promulgate productive thinking attitudes and dispositions. By doing this Ritchhart asserts that “we help our students to develop their intellectual character: the propensity to
regularly engage in productive thinking patterns” (Ritchhart, 1997, p.2). The potential for developing reciprocal feedback loops with the participants is evident, however, the data showed that achieving greater levels of participation, where the students initiate their own feedback loops to *construct a way forward*, proved difficult to achieve.

5.4.5 Ambiguity

In a more recent study, Draper (2009) maintains that the purpose of feedback is to cause the learner to take action or do something differently. He lists six key self-regulatory actions learners may pursue following feedback from a teacher. In brief, these include:

1) Improving knowledge and skill
2) Improving use of time
3) Trying new study methods/approaches to learning
4) Persisting
5) Seeking others’ opinions/advice
6) Selecting different subjects/courses/activities.

Draper states that ambiguities are inherent in the interpretations of feedback from teachers to students. He purports that students apply causal attribution to one or more of the above mentioned items in relation to feedback provided on a particular task, which mayindeed have been unintended by the teacher. The data show that such ambiguities were present in the feedback loops conducted with Stephen and Susan (Int 2). Using a descriptive feedback approach which broaches the cognitive and affective aspects of learning enables teachers and students to pursue clarity and address the contexts and intentions in which the instructive comments were first formulated. On reflection, the feedback given to Stephen on his Thinkit-ticket requesting him to strive for higher quality and share his progress at a later stage (see section 5.4.3), was very broad and entirely non-specific in relation to the skills/knowledge (self-regulatory action 1), time management (self-regulatory action 2) or study strategy (self-regulatory action 3) issues to which he should attend. Stephen had already identified the lack of quality in his written presentation. I confirmed his self-assessment by requesting him to show greater persistence and consistency in the future (self-regulatory action 4). However, Stephen was not informed of anything he did not already know himself and in essence, he was deprived of an actionable cognitive outcome to advance his learning.
Draper (2009) maintains that students may in fact be dealing with a number of self-regulatory issues when performing a task and the resultant feedback may miss the mark in terms of what students deem to be important in their learning at a given time. For Stephen, the descriptive feedback was too broad, probably creating ambiguity and most likely confusion as to which self-regulatory action would best improve his performance in both the short and long term. In this descriptive feedback conversation with Susan (Int 1), ambiguous feedback occurred as a result of the observations which were conveyed to her but conflicted with her self-determined need to think faster.

Teacher: Is there anything else you’d like to improve in your learning?
Susan: Hmmm, thinking a bit faster about things. Not spending too much time on thinking about things and putting things down.

The written feedback provided on her finished work, however, affirmed Susan’s ability to manage her time well and achieve completion, complimenting the aspect of her learning she most wanted to improve.

Brookhart’s (2008) double-barreled approach, which addresses the motivational needs of the learner (sense of control over the task) and the cognitive factors required for success (identifying where the student is situated in relation to the learning goal) as necessary prerequisites for feedback that fits, is highlighted in the examples featuring Stephen (see section 5.4.3) and Susan. While Stephen’s feedback (figure 5.2) was deficient in cognitive information, Susan’s feedback was ambiguous in motivational terms because of the conflicting message she received. While these examples reveal aspects of the ineffectiveness of the descriptive feedback and the need to avoid ambiguity and confusion, the positive elements to emerge from these exchanges are the students’ honest appraisals of their progress and their willingness to express their thoughts to further improve their learning. In this case, the double barreled approach for providing feedback that fits begins with the ability and confidence of the students to express their insights and for the teacher to seek such revelations and use them to inform the next stage of instruction.

5.5 Facilitating metacognitive thinking and self-regulatory actions

From the outset, the aim of this study was to explore the participants’ experiences of engaging in descriptive feedback dialogue in order to construct a way forward for the next stage of learning. It was hoped that such dialogue might lead students to consider, either explicitly or implicitly,
their metacognitive and self-regulatory approaches to learning and facilitate the learning process more actively and with greater autonomy. The findings, however, revealed that the act of reflection proved easier for the participants when asked to identify a self-regulating action that might assist the next stage of their learning. Co-constructing an action with the teacher-as-facilitator was more challenging.

Overall, the students were unable to consider their learning in any depth with the exception of Ted who offered the following response:

Ted: Um, you could learn more stuff about one subject and when we have done that go into another subject.
Teacher: So when you say subject do you mean a big question or topic?
Ted: Big question.
Teacher: So spend some more time on a big question?
Ted: Yeah keep on one until we’ve answered one and then move on.
Teacher: Do you feel that we move through them a bit quickly sometimes?
Ted: Yes, sometimes.

Ted’s suggestion about deepening his understanding of the Essential Questions (Wiggins & McTighe, 2006) deserves further consideration. Typically, Essential Questions cannot be answered with a definitive ‘yes’ or ‘no’ response, nor do they have a single correct answer. They are open to interpretation and exploration, and are used for the purpose of uncovering the complexity in topics. The Essential Questions in the Toys unit: What is a toy?; What makes a good toy?; and What was in the mind of the inventor? required further investigation and possibly greater clarity for Ted. It is likely that other students held similar views. Ted was demonstrating a metacognitive approach to his learning by alluding to the possibility that the big questions central to the topic were not answered or explored to his satisfaction. He was regulating his cognition to determine the extent of his grasp on the topic. On reflection, more could have been made of the opportunities to deepen the learning and expose the thinking around the key questions and ideas central to the topic. This information constitutes formative assessment upon which decisions can be made to enhance student learning and explore ways to engender productive learning relationships (facilitation).

This finding sharpens the focus on the formative assessment tenet which promotes the teacher as a facilitator and partner in the learning process (Earl & Katz, 2005). For metacognitive and self-
regulatory actions to occur, the students, and possibly the teacher need to adjust their conception of the customary roles undertaken in the teacher/student relationship. This would require students to engage in a collaborative partnership for which they may feel inadequate, or even incapable, of performing. The two major provocations here relate to: 1) student readiness for developing a collaborative partnership based on metacognitive insights; and, 2) breaking down the power relationships in order for dialogue to flow in such a way that learning is facilitated, rather than directed, by the teacher.

The formative assessment strategies and semi-structured interview questions conducted throughout this study were aimed at directing students to consider aspects of their learning performance in respect of their thinking and progress in the set tasks. The questions posed to the students can be placed under two categories: Metacognitive Prompts and Self-Regulatory Prompts (see Appendix 1). The terms metacognition and self-regulated learning (SRL) were not used with the students. Instead, the act of reflection was called looking back into learning so that the students could grasp the concept of reflective learning more easily. In general, the participants had little trouble reflecting on their learning experiences and were reasonably adept at providing brief verbal responses ranging from one to two sentences. Written responses did not exceed one sentence in length. Each participant was able to define an action or strategy for the question How did you help yourself learn today? as the following responses demonstrate (Int. 1).

Teacher: How did you help yourself learn today?
Jake: By doing what I know.
Teacher: How?
Jake: By using my mind.

Teacher: How did you help yourself learn today?
Ted: Maybe at the start I could have thinked (sic) more. Use more think time.

Teacher: How did you help yourself learn today?
Stephen: Look at some other people’s work if you’re allowed to.

Teacher: How did you help yourself learn today?
Ava: Concentrate more.
Teacher: How did you help yourself learn today?

Marcus: Maybe I could do draft copy at home and then do the real copy at school.

Teacher: How did you help yourself learn today?

Susan: I’m not really sure.

The most common responses referred to the non-specific, broad cognitive action of ‘thinking more’ and ‘concentrating more’, as a means of improving their level of performance. The other two most common responses related to the skill of writing and the presentation of their work (see 4.4). Susan felt confident with her level of achievement after receiving positive feedback from her classmates, but was unable to specify an area for improvement. The students’ references to using a model, applying ‘think time’ and completing a draft copy to promote learning, reflects their knowledge of metacognitive and self-regulatory strategies relating to their own performance and effort.

Conversely, the participants were unable to conceive, or formulate, any type of learning support required of me, in relation to their own SRL actions, or with any other tasks relating to the Toy Technology inquiry (Int 1). The trend in the second round of interviews differed in that four of the six participants offered a suggestion. The responses given by Marcus and Ava however, were vague and reflect the difficulty they had in expressing their thoughts, as these responses demonstrate:

Teacher: Is there something I can do to help you more in class?
Ava: Umm, maybe umm, you could maybe give us an idea.

Teacher: Do you feel as though I’m helping you enough?
Marcus: Not really.

Teacher: Are you sure? Is there something I could help you with?
Marcus: Maybe helping me to understand the questions more.

Once again the participants, for the most part, struggled to identify a constructive action involving my assistance, when invited to facilitate their learning in this way. There are a number
of possible explanations for this outcome, which include: student reticence about pointing out teaching deficiencies; students requiring more time to consider questions seeking answers to facilitated learning; student unfamiliarity with the practice of facilitation and student lack of certainty about their role in a collaborative partnership.

5.6 Summary

Discussion of the findings revealed the students’ willingness to share their personal experiences of success and failure in a variety of forums and pointed to a classroom culture that engendered trust and facilitated descriptive feedback exchanges. The teacher-student exchanges provided insights into the students’ affective responses to the learning and the cognitive challenges they faced. The effectiveness of the feedback to students was maximized when it was delivered within the lesson and took into account the needs espoused by the students. This chapter has highlighted the difficulty of breaking down the power relationship between the teacher and student in order to promote greater collaboration and facilitation in the learning process and increase the reciprocal flow of feedback loops. In the final chapter, the implications for my teaching practice are outlined and areas for further research are suggested.
CHAPTER 6: CONCLUSION

Autumn
Lord, it is time. The fruitful summer yields;
The shadows fall across the figured dial,
The winds are loosed upon the harvest fields.
See that these last fruits swell upon the vine;
Grant them as yet a southern day or two,
Then press them to fulfilment, and pursue
The last of sweetness in the heavy wine.
(James McAuley, cited in J. Barnes and B. McFarlane, Cross Country, 1984, p.132)

6.1 Introduction

In this final chapter, I harvest the information that was seeded in children’s classroom talk relating to their affective and cognitive responses to learning and which was later cultivated through the cycles of listening, observing, recording and reflecting. The result, it is hoped, is a rich distillation that will inform my pedagogy. The conclusion begins with a Reflection on action (Schön, 1983) followed by six key findings coupled with implications for the teaching and learning in my setting. The study’s recommendations for further research and a concluding statement draw the chapter to a close.

6.2 Reflection on action

The methodological approach of practitioner research adopted for this study has been guided by the action reflection model (see Figure 3.1). As such, I have reached the final stage of the cycle which invites the researcher to move in a new direction. The knowledge and insights I have gained through the observations, reflections, actions, evaluations and modifications related to my Assessment as Learning practice and the use of descriptive feedback with young students, ‘must go somewhere’. In other words, the study has come full circle and in many respects the action reflection cycle starts again. Hence the ‘reflection on action’ has resulted in the development of The Talk for Learning chart (see Figure 6.1). The idea was conceived from the data and subsequent findings which highlighted the importance of dialogue in teaching, learning and assessment. The Talk for Learning chart and its strategic use in the classroom does indeed provide a new direction for improving my pedagogy and empowering student learning.
The Talk for Learning chart combines various elements of the action reflection model and relies on the five principles for dialogic teaching (Alexander 2003). The purpose for using this model is to promote and deepen students’ learning by engaging in dialogue at each stage of the six outer points on the chart. Its application in the classroom is extensive. The chart could be implemented to explore Essential Questions, student inquiries, open ended numeracy problems, project work and philosophy lessons. Teachers may decide to focus on one or all of the outer points in a lesson. Conversations can be conducted with the whole class, small groups, partners (including a teacher and student). The inner hub of the chart emphasises the active and reciprocal nature of talk for extending learning. As students become more adept at using the Talk for Learning chart, blank models could be introduced to record the thinking that emerges from the discussions, to further demonstrate that learning is enhanced when ideas are considered, shared and contested with other people. Further details on the implications for my practice are addressed in 6.3.1.
The words and ideas that have culminated in this thesis began with my nascent personal experiences of, and reflections about, empowerment and disempowerment as a learner from an early age to adulthood. Through this qualitative research design, incorporating a practitioner-based, inquiry methodology I have sought to refine and clarify my living educational theory (McNiff & Whitehead, 2006) about how to support and promote student learning. I undertook this inquiry to verify, and possibly even repudiate, the intuitive notions I had formed about descriptive feedback. This project originally took root with the vignettes described in Chapter 1, out of which three self-reflective questions were formed: When was I empowered as a learner?; When was I disempowered?; and What were the key contributing factors?

These questions were revisited over time and have manifested in a personal study exploring the effectiveness of my use of descriptive feedback with children. The happenstance discovery of Tunstall and Gipps’ (1996) research paper outlining a typology of feedback helped to crystallize the essence of this investigation by defining a category of assessment feedback which aligned with my initial assumptions about building student agency. The particular category identified by the authors is known as Type D2: Descriptive feedback for constructing the way forward (Tunstall & Gipps, 1996, p. 9). With the discovery of this essential element, a study based on students’ experiences of descriptive feedback could begin.

From the outset, the construct of this study was most important as I did not want the participants’ involvement to advantage or privilege their learning over the other members of the class. The introduction of student Thinkit-ticket self-reflections constituted an essential part of data gathering process. This was a new innovation which I had developed earlier in the year and which the children embraced with enthusiasm. The reflections were a valued source of data as they provided useful insights into the students’ metacognitive thinking and affective responses to their learning. The success of this strategy can, in part, also be attributed to the free selection of tickets from the individual booklets. In addition to the written component reflections, the particular ticket selection gave an indication of the students’ self-regulatory thinking.

The semi-structured interviews provided rich accounts of the participants’ experiences. Indeed, some of the interview questions used in the second round were formulated from the students’ responses in round one in order to ascertain the effectiveness of the descriptive feedback received in the previous lesson. During this process, however, the impact of the unequal power
relationship that prevailed in the classroom (see 5.5) was also evident during the interviews. The students showed a heightened level of self-consciousness when answering questions during the individual interviews. In hindsight, the implementation of a group interview might have reduced the impact of my presence in these one-on-one situations. The use of a digital voice recorder and note pad with questions may also have contributed to the students’ increased self-awareness.

The observations recorded by Colleen Abbott, as the study’s non-participant observer, provided additional accounts of the interactions that occurred between the students during the sequence of lessons. Colleen also collated detailed notes on the descriptive feedback exchanges that were initiated with the students. Particular attention was directed towards the students’ actions following feedback interventions which, in conjunction with the interview data, resulting in the finding for the positive impact of immediate feedback information for the participants in this study. Colleen’s role allowed me to have access to conversations and descriptions about student actions that would not have been possible had I conducted my own observations, while teaching at the same time. Her involvement was essential for helping me to address the central tenet of this study; namely the effectiveness of my use of descriptive feedback.

Maintaining a teacher journal throughout this inquiry prompted reflection in action and reflection on action (Schön, 1983). While reflection in action happened on the run during lessons, particularly when the formulating descriptive feedback questions to students, reflection on action occurred in solitude following the lessons and interviews. Through the act of looking into my practice and recording my thoughts, I was able to obtain useful insights into the learning experiences and decide on new directions for my teaching. Cross checking my reflective notes with Colleen’s observations provided interesting points of correlation and contrast to my more subjective interpretations of events. This triangulation strategy informed the decision to be more specific about learning goals and revisit descriptive feedback with students more frequently, in order to prompt their self-regulatory strategies.

6.3 Summary of key findings

The key findings address the central research question: How effectively does my use of descriptive feedback support learners in ‘constructing the way forward’ (Tunstall & Gipps, 1996) in an Assessment as Learning context? Implications for my practice and recommendations for further research, in some cases, follow each finding.
Key findings 2-6 address the sub-questions and the focus on the implementation of descriptive feedback with students and the discernable actions and practices that determined the effective uptake of feedback information conveyed during classroom discussions and post lesson reflections. The sub-questions are:

- What are the defining features of my descriptive feedback dialogue?
- What factors influence the take up of my descriptive feedback?
- What evidence is there that descriptive feedback ‘constructs the way forward’ (Tunstall & Gipps, 1996) for the students learning?

### 6.3.1 Key finding 1

The effectiveness of descriptive feedback fits into a broader context of dialogic teaching that requires teacher knowledge about, and a classroom culture that is conducive to, and supportive of, dialogic teaching principles. (Alexander, 2003)

This finding reveals the contingent nature of descriptive feedback upon the teacher-student and student-student planned (and incidental) opportunities for classroom discussion, the pattern of talk moving beyond IRF (Sinclair & Coulthard, 1975) and a shared understanding of the conditions and expectations for effecting productive dialogic teaching (Alexander, 2005). These elements were not always present in the descriptive feedback exchanges conducted with the whole class or individuals. Yet the culture of the classroom for promoting thinking (Ritchhart, 2002) proved conducive to, and supportive of, dialogic teaching where students could express their ideas in a respectful and supportive environment. While examples of sustained conversation, where ideas were exchanged and contested in a cumulative way were noted in the observations and interview data, these occurrences did not feature prominently or frequently in the feedback exchanges with the participants.

A deeper knowledge about dialogic principles for teaching and learning (Alexander, 2005; Bourdage-Reninger & Rehark, 2009; Lyle, 2008) would have provided a framework and model upon which to base descriptive feedback discussions in this study. The effectiveness of such discussions may have been improved had I, and subsequently the students, developed a clearer understanding of the roles and the expectations of the principles of dialogic pedagogy when engaging in descriptive feedback (Tunstall & Gipps, 1996).
The descriptive feedback conversations and written comments opened the door to a wider pedagogical practice known as dialogic teaching (Alexander, 2003, 2008; Lyle, 2008). Making space for classroom talk based on commonly agreed principles and conditions, and investigating the purposeful use of dialogue to enhance students’ metacognitive and self-regulatory abilities (Fisher, 2007) is another direction in which to take this new found knowledge.

**Implications for practice**

This finding has provoked a new curiosity which questions whether or not students of primary school age (5-12 yrs) are capable of using the Talk for Learning chart supported and guided by dialogic principles (Alexander, 2005) to improve their learning and embed a more reflective culture of learning in the classroom. The implications of this finding revolve around deliberate and mindful planning for learning through dialogue and developing my pedagogy around established dialogic principles. The enculturation of a supportive classroom environment that commits to respectful relationships, seeks opportunities for thinking and provides a vocabulary for talking about thinking (Ritchhart, 2002) is also pivotal to generating productive dialogue teaching. Such a pedagogy should be pursued and promoted through all class levels to promote a culture of thinking (Ritchhart & Perkins, 2008) enlivened by sustained and cumulative conversations about thinking and learning.

**Recommendations for further research**

This key finding suggests the need to conduct further teacher inquiry into the implementation of a pedagogy based on dialogic principles. This could be achieved through:

- action research to develop improved practices in the area of dialogic teaching; and
- self-study to investigate the types of feedback being used in the classroom for the purpose of building a wider repertoire of feedback types to improve learning.

6.3.2 **Key finding 2**

**Descriptive feedback, as a reciprocal process, requires a learning environment that supports reflective discussion.**

Descriptive feedback *from* students highlighted their affective and cognitive needs as well as their willingness to share:

- feelings of success and failure;
• success criteria;
• self-regulating strategies; and
• anxieties.

Student disclosures were made publically in front of the class and during individual teacher initiated conversations. Plenary discussions were held at the beginning and conclusion of lessons to: reflect on the students’ progress towards achieving goals; discuss success criteria; gauge affective and motivational factors impacting the learning; and illuminate the Essential Questions at the core of the unit. The classroom culture implicitly and explicitly stipulated respect for individual differences in learning (learning preferences and ability) and embraced uncertainty as a natural part of the learning process. The feedback to the students was non-evaluative and avoided judgements about their efforts and behaviour. The individualised descriptive nature of the feedback facilitated longer conversations and led to a deeper understanding of their academic and emotional responses to their learning.

Implications for practice
Individualised instruction and differentiated learning extend beyond content in learning and encompass the personal dealings teachers have with students when discussing their cognitive needs and affective responses to particular tasks. This requires me to instigate sustained written and spoken feedback loops with a view to assisting the students to develop their own metacognitive abilities and self-regulatory practices to improve learning. Professional development for teachers is also implicated in this finding given the complexity of engaging with formative assessment and structuring effective feedback.

Recommendations for further research
The literature has called for further empirical research into the use of feedback in formative assessment for improving student achievement (Black & Wiliam, 1998, Brinko, 1993; Hattie & Timperley, 2007; Rodgers, 2006). As there is an acknowledged gap in the literature about the provision of feedback to primary school students, especially within the Early Years (Prep – Year 2), this finding suggests a need for teachers, school leaders and academics to further explore and implement a cohesive and sequential practice of descriptive feedback within a primary school setting.
6.3.3 Key finding 3

The timing and clarity of descriptive feedback impacted the students’ ability to incorporate the feedback information into a strategic approach for improving their learning.

When descriptive feedback was given in situ (verbal), the uptake of advice was much greater than the implementation of strategies and suggestions formulated in the post lesson feedback. The observational notes show that the students responded immediately to verbal feedback within the lesson but had difficulty recalling the details of discussions and written comments supplied in the interviews and on the Thinkit-tickets following the lessons, as they prepared for the next stage of learning. While the interim of eight days between lessons and the cognitive demands of the lessons appears to have negatively impacted the students’ ability to transfer the feedback to their long term memory, the findings do support the practice of providing immediate opportunities for the students to employ the next step strategies.

Implications for practice

Feedback to students need not become a memory test for teachers or students. Keeping notes on conversations and revisiting written and spoken feedback regularly, would assist in keeping the information ‘alive’ for student referral. This suggestion concurs with literature that states the provision of feedback should be timely and frequent (Brookhart, 2008; McTighe & O’Connor, 2006).

Recommendations for further research

Given the relatively small amount of research into the timing of descriptive feedback with students in the early years of school, further studies into the relationship between timing of feedback and its impact on learning, in light of their developmental stage, would add to the body of knowledge about metacognition in formative assessment practices.

6.3.4 Key finding 4

Engaging in descriptive feedback discussions revealed the students’ thinking about their own perceptions of tasks (Muis, 2007) and the personally devised criteria they deemed important for success.

This key finding demonstrates that the students construct their own perceptions about tasks and set the criteria by which they deem success can be achieved, despite the teacher’s outlining of explicit learning goals and indicators of success pertaining to Essential Questions and Big Understandings (see 4.8.3) at the commencement of each lesson. Achieving completion of the
activity, accurate spelling and attractive visual presentation of school work were the main priorities for the students. In order to provide ‘feedback that fits’ (Brookhart, 2008) the students’ engagement in, and definition of, the task should be given due consideration so that the feedback is personally relevant and meaningful. Resultant descriptive feedback that ignores the students’ sense of agency is liable to lack relevance, cause confusion, broaden the gap between actual and intended learning, or even undermine confidence. Formative assessment information is likely to be more effective, and the notion of students facilitating their learning may be further enhanced, when a comprehensive approach to receiving and giving feedback is adopted.

**Implications for practice**

This finding highlights the need to uncover students’ definitions and perceptions about tasks when formulating descriptive feedback. Developing reflective practices that can be shared and discussed, and incorporating them into the teaching and learning process will assist greater confluence between intentions for learning and the actual learning priorities identified by the students.

6.3.5 **Key finding 5**

**Facilitating learning through descriptive feedback is a complex process which involves a reconceptualising of the relationship and roles of the student and teacher.**

This finding relates to the difficulty of breaking down the traditional conception of the teacher as the holder of knowledge and the students as the passive recipients. Moving from a teacher directed approach to one which is co-constructed by the students and jointly facilitated by the teacher and students is not easily achieved. This finding is informed by the positioning of the students and the teacher throughout the study and the inherent power relationships that occur in a classroom setting. While the students were reasonably adept at constructing their own feed-forward strategies, they had difficulty in suggesting ideas for teacher involvement to assist their learning. This is not to say that the teacher should not be considered the ‘expert’ in the teaching and learning process, however, it does point to a general acceptance of learnt roles which at times restricts the students when asked to consider personalised feed-forward assistance.

**Implications for practice**

Develop a learning culture whereby the practice of facilitation, based on a shared understanding of the roles of the teacher and learner in the classroom, and the expectations of each person in the
teaching and learning process, are clearly enunciated and understood. Support though the implementation of probing questions, self-regulatory strategies, modelling, practice, and a language for talking about learning would form the key criteria. In such a classroom, self-directed interactions with the teacher and peers would play a greater role in the learning process.

6.3.6 Key finding 6

Learning outcomes were enhanced by referencing feedback against the goals and essential questions central to the inquiry unit.

This key finding supports the proposition that descriptive feedback constructed a way forward by guiding the students’ learning and prompting their thinking (metacognition) about the central concepts and provocations of the Toy Technology unit. It was also revealed that student learning was supported through the prominent display of understanding goals and Essential Questions in the classroom, which the students used as a reference point for gauging their understanding. (Stephen Int 2, Ted Int 2, Ava Int 2). Descriptive feedback assisted me to make meaning of the learning experiences, develop ideas and plan new directions for future learning based on the feedback provided by the students.

Implications for practice

As this finding indicates, the students were supported by the explicit visual display of the learning intentions, effectively forming the criteria and boundaries of the topic. The implication is that student learning in other subject areas may be supported by providing similar explicit information against which descriptive feedback can be referenced. The targeted knowledge, understandings and skills need to be clearly identified at the planning stage so that this information can be conveyed to the students.

Recommendations for further research

This key finding highlights the need to conduct research into teachers’ and students’ experiences of using descriptive feedback alongside understanding goals and Essential Questions to guide learning, particularly at primary school level. A longitudinal study would add to the corpus of knowledge in this select area of formative assessment.
6.4 Concluding thoughts

As a result of this study, I have come to realise that *assidere* connotes much more than a personalised inquiry into a student’s affective and cognitive experiences of learning, when applied in an Assessment as Learning context. The use of descriptive feedback in Assessment as Learning elevated certain realities and provided insights which confirmed the complex nature of formative assessment. Most notably, I am reminded that there is no blueprint for achieving immediate success for improving student learning. Recent literature (Hattie & Timperley, 2007; Stiggins & DuFour 2007; Wiliam, 2008) claims that significant quantifiable improvements in student achievement are possible through the implementation of formative assessment practices. However, my experience of implementing assessment strategies to develop students’ reflective, metacognitive and self-regulatory abilities highlights the need for patience, knowledge of theory and practice (praxis), and persistence through trial and error.

This study evolved from my own ‘living educational theory’ (Whitehead, 2007) grounded in the research of Black and Wiliam (1998), Earl (2003, 2005), Rodgers (2006) and Tunstall and Gipps (1996). It also emerged from my lived experience that students’ sense of agency and autonomy as learners improves when personalised descriptive feedback recognises the interplay between the emotional and cognitive factors that impact their performance. Central to this personal theory the establishment of a reflective learning culture forged on respect and grounded in trust. Indeed, the students demonstrated their capacity to *look back into their learning* (see Chapter 5) and identify their strengths and weaknesses. Moreover, they were prepared to share their experiences and thoughts with others.

**Assidere, Quaerere, Audire – to sit, to seek and to listen**

While initially captured by the term *assidere*, and the imagery of ‘sitting beside’ students to support and extend their learning, the experiences I encountered throughout this study involved substantially more than the literal translation of the Latin verb. Once seated, the real work of formative assessment begins. I became more acutely aware of keeping an open mind to the difficulties, anxieties and triumphs students experience in any given task. Pre-empting these realities or even failing to unveil them by unswervingly pursuing my intended outcomes could result in lost opportunities to the build students’ agency as learners and reinforce their dependency on me to get the right answer. The challenge is to skilfully and mindfully elicit the
motivational and cognitive influences at play and weave the information into feedback, feed-up and feed-forward responses to support student learning. The mindset is one of first seeking *(quaerere)* student needs through sustained descriptive feedback questioning *(What is the hard part? Do you feel confident? Where can I help?)* and then listening intently *(audire)* without hastening towards a judgement in order to give agency to the student and build a learning culture where student talk is prized. *Assidere, quaerere* and *audire* complete a Latin triad that I hope will enrich my pedagogy and awaken students to new possibilities for success.

### 6.6 Epilogue

The concluding vignette recounts a lesson where the elements of dialogue and the actions seeking, listening and learning along-side students occurred. In many respects the essence of this study came together to provide me with a glimpse into the possibilities for building a dynamic learning environment based on talk and trust.

**Vignette 3**

In 2009 the Year 3 drama students and I were discussing the puppet plays they had been rehearsing in readiness for a final performance. They were providing answers to the question “What skills do puppeteers use to bring a puppet to life?” Having exhausted that topic I moved the discussion from a factual recall question to one requiring deeper thinking.

“Is a puppet an actor?”

I waited, even though the hands of my regular respondents had speared the air. With some further quiet think time other hands were tentatively raised. One or two students called out a single verbal response (without great conviction) and the remainder, it seemed, were still deep in thought. I then asked the class to engage in a Think-Pair-Share *(Lyman, 1981)* exercise to discuss their ideas and provide me with feedback. The following dialogue reveals...

- Child 1: Puppets can’t be actors only people can’
- Child 2: I disagree, puppets can be actors because they talk and put on a show just like actors do.
- Child 3: Well, I think puppeteers are the actors because they do the voices and make the puppet act.
- Child 4: But you can’t see the puppeteer, how can you be an actor if no one can see you?
Child 5: Maybe they are both actors.
Child 1: I have changed my mind, I think puppets are the actors because they are the ones on stage.
Child 6: Me too.
Child 4: Well that means anything can be an actor because puppets aren’t always people!
Child 7: Not *everything* can be an actor, what about a stick?
Child 1: What do you think Mr D?
Teacher: I’m really not sure if there is an exact answer but I love your thinking.

The discussion then took an unexpected but glorious twist with the following question.
Child 8: So... (pensive pause from a student)... what actually is a puppet then?

The students’ cumulative talk, contestation of ideas, respectful listening and engagement in the discussion was vibrant, thoughtful and full of energy. They grappled with questions that didn’t have right or wrong answers. Together we uncovered complex ideas and I was able to listen to their talk without dominating the conversation. The engagement was high and many students shared their views – we ran out of time to fully practise the plays! Learning through dialogue such as this was not part of my education and has been too infrequent in my own teaching...but not for much longer.
Reference List


Dillon, D. (2000). Kid Insight: Reconsidering how to meet the literacy needs of all students. Delaware, USA: International Reading Association Incorporation.


APPENDICES

Appendix A – Overview of State Curriculums and Assessment Practices

Appendix B – Sample of Semi-Structured Interview Questions for Students

Appendix C – Format of Thinkit-Ticket Booklet

Appendix D – Plain Language Statement for Parents

Appendix E – Plain Language Statement for Students

Appendix F – Consent form for persons participating in research projects

Appendix G – Example of the Toy Technology Worksheet Lesson 1
## APPENDIX A

### Overview of State Curriculums and Assessment Practices

<table>
<thead>
<tr>
<th>State</th>
<th>Curriculum Document</th>
<th>Overview of Structure</th>
<th>Features</th>
<th>Assessment Systemic</th>
<th>Assessment School-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victoria</td>
<td>Victorian Essential Learning Standards P-10</td>
<td>3 Domains Disciplinary (Knowledge) Interdisciplinary (skills) Physical, Personal and Social Learning</td>
<td>Standards-based with outcome statements 3 stages of learning 6 Levels</td>
<td>National Assessment Plan (NAPLAN)</td>
<td>Bi-annual written reports A – E grading or equivalent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Formative assessment including observations, work samples, checklists and tests</td>
<td></td>
</tr>
<tr>
<td>Tasmania</td>
<td>Essential Learnings p-10</td>
<td>8 Curriculum areas 5 essential learnings and 18 key elements</td>
<td>Outcomes, standards and progressions for 18 key elements Teaching for Understanding</td>
<td>NAPLAN</td>
<td>Tri-annual Written reports A – E grading or equivalent Performance Indicators in Primary School (PIPS) for Prep children</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>As above</td>
<td></td>
</tr>
<tr>
<td>NSW</td>
<td>P-6 Syllabus 7-10 syllabus</td>
<td>6 Key Learning Areas (stages 1-3) Selection of subjects covered over the period</td>
<td>Outcome statements Foundation statements (knowledge and skills for each stage) Focus areas of learning K-12</td>
<td>NAPLAN</td>
<td>Bi-annual written reports A – E grading or equivalent ESSA (Essential Secondary Science Assessment)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>As above (work samples aligned to a common grade scale)</td>
<td></td>
</tr>
<tr>
<td>QLD</td>
<td>P-9 New Basics (trialing in selected schools) Queensland Curriculum, Assessment &amp; Reporting</td>
<td>4 clusters of practices essential for students’ lives and work Outcomes-based Integrated approach with emphasis on connected learning</td>
<td>Standards-based Mandated rich tasks at Yrs 1-3, 4-6 &amp; 7-9. Standards-based Real world learning experiences</td>
<td>NAPLAN</td>
<td>Bi-annual written reports A – E grading or equivalent Standards comprise 2 dimensions – Ways of Working and Knowledge &amp; Understanding</td>
</tr>
<tr>
<td>Framework (QCAR)</td>
<td>Learnings</td>
<td>Outcomes-based</td>
<td>NAPLAN</td>
<td>Formative assessment</td>
<td></td>
</tr>
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<td></td>
</tr>
<tr>
<td>South Australia Curriculum Standards and Accountability Framework</td>
<td>4 curriculum bands with 8 Learning Areas Standards defined at Yr 2, 4, 6, 8 &amp; 10</td>
<td>Outcomes-based</td>
<td>NAPLAN Bi-annual written reports A – E grading or equivalent</td>
<td>Formative assessment including observations, work samples, checklists and tests</td>
<td></td>
</tr>
<tr>
<td>Western Australia Outcomes and Standards Framework</td>
<td>8 learning areas – not grade or age related. Learning areas based on a developmental continua</td>
<td>Outcomes-based Achievement targets defined at Yrs 3, 5, 7 &amp; 9</td>
<td>NAPLAN Report on Achievement Targets at Yrs 3, 5, 7 &amp; 9</td>
<td>As above Student performance matched to defined Grade Allocation Resources</td>
<td></td>
</tr>
<tr>
<td>ACT Curriculum Framework: Every Chance to Learn</td>
<td>8 Key Learning Areas 10 Curriculum Principles 25 Essential Learning Achievements (ELA) Bands of Development: K-2, 3-5, 6-8, 9-10</td>
<td>Outcomes-based Essential content identified for each essential learning. Markers of progress provided for each Band of Development Disciplined-based and Interdisciplinary learning</td>
<td>NAPLAN Bi-annual written reports A – E grading or equivalent</td>
<td>As above Assessment FOR Learning and Assessment OF Learning</td>
<td></td>
</tr>
<tr>
<td>Northern Territory Northern Territory Curriculum Framework (NTCF)</td>
<td>Inter-related structural approach: 8 Learning areas, EssentNTial Learnings, Learning technology, English as a Second Language, Indigenous Language and Cultures</td>
<td>Outcomes-based Developmental approach</td>
<td>NAPLAN Assessment of Student Competencies (6 years of age) Bi-annual written reports A – E grading or equivalent</td>
<td>As above</td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX B

Sample of Semi-Structured Interview Questions for Students

<table>
<thead>
<tr>
<th>Interview 1</th>
<th>Interview 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell me how you feel about your learning in the Toys topic we’ve been studying?</td>
<td>How do you feel about your learning?</td>
</tr>
<tr>
<td>What are the fun things? What makes you say that?</td>
<td>Do you remember what we’ve been talking about recently to improve your learning our toys topic?</td>
</tr>
<tr>
<td>Are there any difficult parts? What makes you say that?</td>
<td>Have the thinkit tickets helped you to learn?</td>
</tr>
<tr>
<td>How do you think your learning is going?</td>
<td>Have the big questions and understandings helped you to learn?</td>
</tr>
<tr>
<td>What is the next thing you need to learn?</td>
<td>Do you feel that you are reaching the goals?</td>
</tr>
<tr>
<td>What would you like to improve in your learning?</td>
<td>Has your learning improved? How?</td>
</tr>
<tr>
<td>How can I help you to improve?</td>
<td>What can you do to help yourself?</td>
</tr>
<tr>
<td>How can you help yourself?</td>
<td>How can I help you more in class?</td>
</tr>
</tbody>
</table>
APPENDIX C

Format of Thinkit-Ticket Booklet

How did your learning go?

Poor         Fantastic

Why?

Other Thinkit-ticket Question prompts:

- What will you remember and use again?
- What are you unsure about?
- What helped your learning?
- How could you have improved your learning?
- How do you feel about your learning?
- Do you feel successful? Why?
- What did you find hard?
- Did you do something that made you feel proud?
- What did you do well?
- What didn't go well?
- Write 1 thing you will do next time to improve your learning?
- Did you ask a question? What happened?
APPENDIX D

Plain Language Statement for Parents

Project: Descriptive Feedback: Teachers and Students Constructing the Way Forward.

Dear

Introduction

I would like to obtain your consent for …………… to be a participant in a study being conducted by Mr Chris Dinneen (Student Researcher) under the supervision of Dr Sally Godinho (Supervisor) of the Melbourne Graduate School of Education at the University of Melbourne. The project has been approved by the Human Research Ethics Committee and will form the thesis for Mr Chris Dinneen’s Master of Education post graduate qualification. The aims of this study are threefold:

• to investigate student responses to receiving descriptive feedback;
• to develop feedback which students identify as useful for their learning; and
• to refine the use of descriptive feedback in my particular class group and school setting as a means of ‘constructing the way forward’ (Tunstall & Gipps, 1996, p. 396-7) to support student learning and inform practice.

What will the participants be required to do?

Should you consent to your child’s involvement she/he will be asked to participate in a number of ways. The students are familiar with all of these methods as they constitute regular routines and classroom activities. They include:

• weekly ‘in lesson’ audio-recorded conversations about learning with the teacher;
• three audio-recorded face to face interviews involving self-reflections about the effectiveness of feedback in learning;
• weekly written self-reflections in the student’s Project book; and
• three sessions of observations by a qualified teacher whilst the students are engaged in regular classroom learning.

The purpose of these activities is to build a picture of the effectiveness of my use of feedback with the students and to improve and refine this practice to enhance student learning in the future. The audio-recordings are a safeguard to ensure that the transcriptions are accurate. All transcriptions will be available to you at any time should you request them. With your permission the face to face interviews would also be recorded, for the reasons mentioned above, and would require 10 – 15 minutes of your child’s class time. The interviews would occur in the Special Education room. This is the only activity for which your child would be removed from the class. The remaining activities will be conducted within the classroom, with all students participating.
**How will confidentiality be protected?**

We intend to protect your anonymity and the confidentiality of your child’s responses to the fullest possible extent, within the limits of the law. Your child’s name and contact details will be kept in a password protected computer file, separate from any data that is gathered throughout the project. This can only be linked to your child’s responses by the researchers. In the final report your child will be referred to by a pseudonym. We will remove any references to personal information that might allow someone to identify your child, however, you should note that as the number of participants who will be involved is quite small, it is possible that identification could occur. The data will be kept securely at The Geelong College for five years from the date of publication, before being destroyed.

**How will I receive feedback?**

Once the research project has been completed, a brief summary of the findings will be available to you on request. It is possible that the project’s findings may be presented at conferences and written as an article for school publications and educational journals.

**Will Participation prejudice my child in any way?**

Please be advised that your child’s participation in this research project is completely voluntary. Should you wish to withdraw your child at any stage, or withdraw any unprocessed data she/he has supplied you are free to do so without prejudice. Should you at any stage have concerns about your child’s participation in the project the researchers are available to discuss those concerns with you. Participants in this project will receive the same learning opportunities as non-participants. There is no preferential treatment for any of the participants. With the exception of the face to face interview, your child will be participating in the same way as the remainder of the students in the classroom.

**Where can I get further information?**

Should you require any further information, or have any concerns, please do not hesitate to contact the researchers on the phone numbers or email addresses provided. Should you have any concerns about the conduct of the project, you are welcome to contact the Executive Officer, Human Research Ethics, the University of Melbourne, on ph: 8344 2073, or fax: 9347 6739.

**How do I agree to participate?**

If you would like to participate, please indicate that you have read and understood this information by signing the accompanying consent form and returning it in the envelope provided.

Thank you for taking the time to read this information.
Yours sincerely

Dr. Sally Godinho (Supervisor)  
ph. 8344 3692  
email: s.godinho@unimelb.edu.au  

Mr. Christopher Dinneen  
ph. 52) 268 433  
email: cdinneen@geelongcollege.vic.edu.au  

Melbourne Graduate School of Education  
The University of Melbourne  
Victoria 3010 Australia  
T: +61 3 8344 8285  F: +61 3 8344 8529  
W: www.edfac.unimelb.edu.au  

HREC: 08271149; Date:23/06/08; Version: 1
APPENDIX E

Plain Language Statement for Students

"Giving feedback to help students learn"

Dear [Student’s Name],

I am doing a project to find out how I can use feedback with students to help them learn and to improve my teaching. When I finish my project it will be part of my degree, called a Master of Education. My teacher, Dr Sally Godinho, helps me with my project. She is called a supervisor and she teaches at the University of Melbourne. Our school principal, Dr Turner, has given me permission to send you this letter to tell you about my project. Once you have read the letter you can decide if you would like to take part. Please talk to your parents about the project.

If you want to be part of the project, I will be asking you to do some things to help me gather the information I need. Most of the things I am asking you to do the rest of the class will be doing at the same time. These things are:

- recording our discussions on my voice recorder when I am talking with you about your learning in the Toys unit. This will happen about once a week and will take place in the classroom;
- doing a learning diary where you write or draw about your learning in the Toys unit each week;
- having an interview with me to answer some questions about how your learning is going in the Toys unit. This will take about 10 or 15 minutes and I will be using my voice recorder again. I would like to do this three times during the term; and
- having another teacher in the classroom to observe our class and to take some notes on the things that she sees. This would also happen three times a term for about 45 minutes each time.

Only my supervisor and I will see the information that is gathered from you. The project will have nothing to do with your school report. When the project is over, I will lock all the information away safely at school for 5 years. After that I destroy it all. I have to do this because it is a University rule.

Remember, you don’t have to take part unless you want to. If you have any questions you can talk to your parents. If they don’t know the answer to your question, they can contact me, or my supervisor, or the University.

If you want to be part of my project, and your parent/s agree, please sign your name on the next page where it says "student", and get your parent or guardian to sign as well.

Yours sincerely

Mr. Dinneen
APPENDIX F

Consent form for persons participating in research projects

THE UNIVERSITY OF MELBOURNE

MELBOURNE GRADUATE SCHOOL OF EDUCATION

PROJECT TITLE: Descriptive feedback: teachers and students constructing the way forward

Name of participant: ___________________________________________

Name of investigator(s): Dr Sally Godinho and Mr. Chris Dinneen

1. I consent to participate in the project named above, the particulars of which have been explained to me and include: audio-recordings of conversations between the participant and the researcher/teacher, face to face interviews, written reflective journals and observations by another teacher (non staff member). A written copy of the information has been given to me to keep.

2. I authorise the researcher to use for this purpose the data arising from the audio-recordings, face to face interviews, written reflective journals and observations by another teacher.

3. I acknowledge that:
   a) the possible effects of the involvement above have been explained to me to my satisfaction;
   b) it has been explained to me that if at any time I have concerns I am able to discuss these with the researchers, or if need be professional help will be provided by the school counselor.
   c) I have been informed that I am free to withdraw from the project at any time without explanation or prejudice and to withdraw any unprocessed data previously supplied;
   d) the project is for the purpose of research;
   e) I have been informed that the confidentiality of the information I provide will be safe-guarded subject to any legal requirements;
   f) I have been informed that the interviews and classroom conversations will be audio-recorded and transcribed;
g) I have been informed that transcripts and other information provided by your child will be made available to you on request;

h) I have been informed that the confidentiality of the information provided by your child in the project will be safeguarded subject to any legal requirements;

i) I have been informed that my child’s anonymity will be protected by the use of a pseudonym, with my approval, in the thesis and any following publication arising from the research;

j) I have been informed that due to the small number of participants in the study it may not be entirely possible to guarantee anonymity;

k) I have been informed that your child will not be prejudiced or disadvantaged if consent is declined.

Signature______________________________________________Date_________________

( Participant)

Signature ______________________________________________Date_________________

( Parent/guardian)

HREC: 08271149; Date: 17/03/118; Version: 1
Melbourne Graduate School of Education
The University of Melbourne Victoria 3010 Australia
T: +61 3 8344 8285  F: +61 3 8344 8529  W: www.edfac.unimelb.edu.au
APPENDIX G

Example of the Toy Technology Work Sheet Lesson 1

**Explanation Text**

1. Heading (How or Why something happens)

   How a pull back car works?

2. Write your explanation. Try writing it in 3 parts to keep it simple.

   **part 1**
   How wheels turn?
   In the pull back car there is a little box with two circles inside which revolve and turn the wheels.

   **part 2**
   How doors open & close?
   In the doors there is a bar that goes in and out to open and close the doors.

   **part 3**
   Force?
   F=mg w=mg g=9.8

   Use diagram to help the reader understand your explanation. Don’t forget to use labels or simple captions for your diagrams.

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