LEADING CHANGE – EXPLORING STRATEGIES FOR CHANGING PEDAGOGICAL PRACTICES FOR DIFFERENTIATION

Julie Harris BSc (Hons), PGCE, MEd

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Abstract

The aim of this case study conducted in one school was to investigate strategies for educational leaders to use as agents of change influencing school teachers’ classroom practice, in particular, differentiation. The qualitative design methodology involved two phases. The first phase involved observation of high and low achieving students in mixed ability and streamed classes during the school day and a survey of teachers regarding their beliefs about the necessity for differentiation. The second phase involved the formation of a professional learning group of eight teachers who undertook activities including professional reading, group discussion, lesson observation and feedback with the aim of investigating whether these activities led to changes in practice. Findings revealed that although teachers generally believed that differentiated teaching and learning were desirable, a number of issues hindered their attempts to create a differentiated learning environment. The research culminated in the construction of a model that provides advice to educational leaders on supporting teachers to implement change in their classroom practice. The research was conducted specifically in the context of differentiation but the model was written with the aim of being applicable to any desired pedagogical change within a school.
Acknowledgements

A lengthy research project such as this relies on the generosity and support of many people. I would like to thank the following people for their significant assistance.

Thank you …

.. to the teachers at the schools in which I have worked – those who participated directly in my professional learning groups as well as those who invited me to share in their classrooms and their thinking about teaching and learning.

… to those who provided inspiration by sharing the ways in which they support, encourage and work so hard to provide what their students need.

… to my family, for tolerating my immersion in a project that was more long-term than usual, for helping out when they could and for feigning interest as necessary.

… to Opi. I often wished we could have discussed my research and shared ideas and teaching experiences. It’s sad that you weren’t there to read my final thesis, but I thought of you often as I worked on it and I know you would have been proud of what I did and the way I did it.

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… to the Morley Rollerdrome. I’m not sure how many doctoral theses have successfully been written in this setting with blaring disco music in the background, but my children’s rollerblading has improved inordinately and it guaranteed me a three hour slot every Sunday morning where I could write with relatively few interruptions.

… to my outstanding supervisor, Grady Venville was everything a post-graduate student could have wanted in a supervisor. Encouraging, reassuring and readily available for advice, she provided more constructive feedback than could be imagined and never failed to convince me that I was capable of finishing what felt like a mammoth task. Most importantly, she believed in me and kept me writing on the occasions when I wondered whether I had foolishly undertaken something beyond my capabilities.

Thank you all.

Julie Harris
August, 2013
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Terms and Acronyms

Any area of study develops its own terminology and the importance of clarifying that vocabulary for the reader cannot be underestimated. Terms used to refer to various aspects of teaching vary widely between countries, schooling systems and even between individual institutions. It was therefore considered essential to provide clear definitions of the specialist educational terms used within the thesis and these are provided in Figure 1.

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<td>Australian Council for Educational Research</td>
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<td>core work</td>
<td>Learning tasks that all students are expected to complete</td>
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<td>differentiation</td>
<td>Processes of teaching in various ways that cater for the different learning needs of students</td>
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<td>educational leader/instructional leader</td>
<td>Used interchangeably to refer to staff who lead teachers in terms of developing their practice; in this context, generally a head of department or similar</td>
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<td>extension work</td>
<td>Learning tasks that are aimed at the higher achieving students in a class</td>
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<td>green slip system</td>
<td>A discipline system in which behaviours (desirable or undesirable) are reported via a slip of green coloured paper</td>
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<td>Head/Principal/Headteacher</td>
<td>Used interchangeably to refer to the overall leader in a school</td>
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<td>ITT</td>
<td>Initial Teacher Training (the course and school-based teaching practice undertaken by teacher trainees in England)</td>
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<td>levelled groups</td>
<td>When students are allocated to classes based on their academic achievements</td>
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<td>lower school</td>
<td>Years 7 to 9 in the Western Australian context</td>
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<td>maths-on-line</td>
<td>An online computer programme used to enable students to work independently to reinforce mathematical concepts</td>
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<td>mixed ability</td>
<td>A non-selective grouping in which students at all achievement levels learn together in the same class</td>
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<td>NAPLAN</td>
<td>National Assessment Program - Literacy and Numeracy (annual assessments in reading, writing, language and numeracy for students in Years 3, 5, 7 and 9)</td>
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<tr>
<td>non-participant observation</td>
<td>When participants are observed without the researcher taking an active part in the situation (in this context, the researcher observing a lesson but not taking part in the learning)</td>
</tr>
<tr>
<td>PGCE</td>
<td>Post Graduate Certificate of Education (the one year English teacher training qualification)</td>
</tr>
<tr>
<td>prep school</td>
<td>Primary school (generally pre-primary to Year 6, ages 5 to 12)</td>
</tr>
<tr>
<td>pupil/student</td>
<td>Used interchangeably to refer to school children</td>
</tr>
<tr>
<td>scaffolded</td>
<td>Structuring a learning task to guide students systematically through it</td>
</tr>
<tr>
<td>senior school</td>
<td>Secondary school (generally from Year 7 to Year 12, ages 11 to 17)</td>
</tr>
<tr>
<td>streaming/setting</td>
<td>Used interchangeably to refer to the system of teaching students in achievement groupings</td>
</tr>
<tr>
<td>structured observation</td>
<td>When the focus of an observation is planned beforehand so that the researcher has decided what will be observed and recorded</td>
</tr>
<tr>
<td>structured interview</td>
<td>Interview involving the same questions asked of all participants</td>
</tr>
<tr>
<td>support group</td>
<td>A smaller class, generally of fewer than 12 students, who struggle to learn and are grouped separately from others of the same age for teaching and learning purposes</td>
</tr>
<tr>
<td>top set</td>
<td>A class of high achieving students grouped separately from others of the same age for teaching and learning purposes</td>
</tr>
<tr>
<td>upper school</td>
<td>Years 10 to 12 in the Western Australian context (ages 14-17)</td>
</tr>
</tbody>
</table>

Figure 1. Definitions of terms used within the thesis.
Chapter One: Introduction

1.1 Introduction - Background and context

The research presented in this doctoral thesis focused on classroom differentiation and the reasons that suggest teachers should cater pedagogically for different students’ learning needs. Teachers hold different beliefs regarding the need to adapt their teaching to support student learning in their classrooms and vary in terms of their effectiveness to do so. Student diversity has always been a challenge for teachers aiming to ensure that all students make appropriate individual progress. From an educational leader’s perspective, an understanding of effective professional development strategies such as lesson observation and feedback is essential if students’ learning is to be optimised. This chapter begins with a consideration of the issues most relevant to the research: differentiation, teacher beliefs and lesson observations. The research questions are introduced and the significance of this research in the Western Australian context described. Finally, the structure of the thesis is outlined and the contents of each chapter summarised.

1.2.1 Differentiation

Considering educational differences between students is hardly new. Long before differentiation was a common educational term, Quintilian (c.90 CE) asserted that:

It is genuinely and rightly considered a virtue in a teacher to observe accurately the differences in ability among his pupils, and to discover the direction in which the nature of each particular pupil inclines him. There is an incredible amount of variability in talent, and the forms of minds are no less varied than the forms of bodies.

Different educational institutions have at different times in history advocated various ways of organising their students into groups. Students in schools, for example, may be predominantly streamed or setted, divided into ability groups, or mainly taught within mixed ability classrooms. Poole (2008) referred to “the school’s work of sorting students” (p. 2) and suggested that the traditional use of ability groups can be seen as contributing to the selective function of the school. One of the disadvantages of setting or streaming students, however, is that “long-term consequences can mean that
perceptions or labels associated with group membership become fixed over time and movement to higher-level groups is unlikely” (p. 2).

Previously, the practice of streaming students was seen as catering for differences in their academic abilities. Educators have realised, however, that even setted or streamed groups still contain a mix of abilities (Hull, 1993) and this has led to the expectation that teachers will plan lessons that cater for the mix of abilities within their classroom, that is, they will differentiate their instruction.

Although the term ‘differentiation’ may be a relatively new one, the idea itself is by no means a modern concept. As long ago as 1944 in the United Kingdom (UK), the Education Act stated as a legal requirement that “all children receive an education related to their age, ability and aptitude” (HMSO, 1944, p. 35). Even when pupils are grouped in classes because they are seen as being of a similar ability, there exists a diverse range of both skills and intellectual capabilities. Teachers are well versed in the problems associated with meeting the needs of the range of pupils they encounter every day in their classrooms. However, they often describe a dearth of knowledge of practical strategies that would enable them to meet all their students’ differing needs.

Powell (1991) described the need for pupils to achieve regular periods of success in the classroom if they are to maintain positive self-esteem, and states that for this to be possible, assignments must provide for differentiation. Tomlinson and McTighe (2006) suggested that because teachers work with human beings who differ significantly in so many ways, the methods used to make work accessible for students must be many and varied. “A key premise of differentiation is that virtually all students should have access to a curriculum rich with the ideas and skills valued by experts in a field” (p. 39).

A major problem encountered when writing this thesis was deciding on the appropriate terminology to describe student attainment or success in the classroom. Using the term ‘ability’ implied that a student is only ‘able’ to attain certain levels of success, rather than entertaining the possibility that under different circumstances or perhaps with a different teacher, the results of their learning might be quite different. Similarly, the term ‘achievement’ summarised only their results in tests or assessments rather than any potential they might have. Further problems arose due to the common educational use
of terms such as ‘mixed ability class’ to refer to a class in which students are achieving at different levels. The Australian Council for Educational Research described one set of their assessments as measuring ‘general reasoning ability’ and the term ‘ability’ was used even in the job description of the teacher undertaking this research. It rapidly became clear that uncertainty resulted from the use of either term.

Hattie and Anderman’s (2013) *International Guide to Student Achievement* devoted its entire initial chapter to the issue of defining student achievement. Given the inclusion of the phrase ‘student achievement’ as the dependent variable in so many educational research studies, it may be surprising that a clear definition of the term is not easily obtained and universally accepted. In this connection, Guskey (2013) reported that:

> Not only do policy makers, legislators, school leaders, teachers, parents, and researchers often define student achievement differently, tremendous variation exists in the definitions of individuals within each of these groups. (p. 1)

Having no generally accepted definition of student achievement inevitably makes it difficult to evaluate the success of educational interventions. Guskey (2013) described issues of defining ‘attainment’ and ‘improvement’ as “further complicating efforts to define ‘student achievement’” (p. 4), describing ‘attainment’ as “students’ level of achievement at a particular point in time” and ‘improvement’ as “what a student or group of students gain as a result of their learning experiences in school” (p. 4).

Clearly there is no easy ‘rule of thumb’ which enables the terms to be used in a way that will cater for all eventualities. It was, therefore, eventually decided that the terms ‘ability’ and ‘achievement’ would be used interchangeably within the thesis. This enables readers to read terms with which they are familiar from their everyday practice (‘mixed ability’, ‘student achievement’) whilst being clear that the researcher is well aware of the issues involved in referring to what Guskey (2013) describes as “a multifaceted construct that can address different domains of learning, often measured in many different ways, and for distinctly different purposes” (p. 5).
1.2.2 Teacher beliefs

Recent research has sought to understand the relationship between teacher beliefs and practice (Savasci-Acikalin, 2009). Roehrig and Kruse (2005) suggested that teaching beliefs have a significant impact upon teaching practices. They found that teachers’ beliefs were critical in determining whether they implemented curriculum reform and its associated teaching strategies. Previous work investigated the conceptions of mathematics and mathematics teaching held by junior high school teachers. Examination of the relationship between conceptions and practice showed that these teachers’ beliefs, views and preferences about mathematics and its teaching played a significant role in shaping their teaching behaviours (Thompson, 1984).

Some of the literature in this field relates to either student teachers or the teaching of reading in primary schools and tends to support the idea that teachers do possess theoretical beliefs and that such beliefs do shape the nature of their classroom instructional practices (Fang, 1996). Few studies, however, have explicitly addressed the issue of “how teachers can apply their theoretical beliefs within the constraints imposed by the complexities of the classroom life” (p. 59, Fang, 1996).

Teacher beliefs can be incongruent with what they actually do in practice; that is, the beliefs they espouse are not always consistent with their classroom teaching. Several studies provide evidence for the incongruence between a teacher’s publicly declared philosophy or beliefs about education and how they behave in the classroom. Olafson and Schraw (2006), for example, found that there were inconsistencies between the beliefs expressed by practising teachers and their classroom practices. Mellado (2007) described a teacher whose stated beliefs pointed to a constructivist orientation and learning through debate. His classroom practice, however, showed that he regarded the students as passive receptors of knowledge as he followed a strategy of transmission of external knowledge based solely on teacher explanations. Raymond (1997) found that one teacher’s practice was more closely related to her beliefs about mathematics content, than to her beliefs about mathematics pedagogy. Her beliefs about mathematics were highly influenced by her own experiences as a student and her beliefs about mathematics pedagogy were primarily influenced by her own teaching practice. Zeichner and Tabachnick (1981) suggested that the thousands of hours that prospective
teachers spent previously as pupils in the classroom shaped their beliefs. These beliefs remain dormant during their teacher training in pedagogy at university but become a major force once the candidate is in his or her own classroom.

Other research also indicates that there is often incongruence between a teacher’s publicly declared philosophy or beliefs about education and how they behave in the classroom. For example, Elbaz (1983) asserted that there is often a discrepancy between a teacher’s perception or account of a lesson and the perceptions or accounts of other participants such as pupils or observers in the classroom. This incongruence can be due to many reasons. Karaagac (2004) suggested that teachers’ beliefs about how subject matter should be taught were sometimes overwhelmed by the targets they were expected to meet. This is one reason why self-reports can be unreliable and indicates the importance of using direct observations for research on pedagogy.

The research presented in this thesis focused on the nexus between teachers’ beliefs about excellent pedagogy and differentiation and their classroom pedagogy. This interaction between what teachers believe and what they do was considered to be a rich area for investigation to reveal insights into how pedagogy can be improved.

1.2.3 Lesson observations

Observation of classroom practice should play a pivotal role in the professional development of teachers. It encourages them to talk about teaching and empowers them in the classroom as well as providing the leaders of educational institutions with a means for professionally developing staff. Blase and Blase (1998) listed talking with teachers, promoting their professional growth and fostering teacher reflection, as three aspects of effective instructional leadership. Observing teaching is an essential part of monitoring teaching performance and developing teaching practice in professionals. Reports on the English appraisal system found that infrequent or ineffective classroom observation constituted an inadequate check on students’ performance (DfEE, 1997).

Research by Wragg (1996) in 400 English schools found that only twenty eight percent of teachers were observed teaching and this occurred only once per year instead of twice as in the appraisal regulations. In many cases the observations lasted for less than
the 30 minutes minimum recommended duration. Often there were doubts regarding exactly what was being appraised and it was primarily left to the teachers to decide the focus for the observation. Despite these reports of infrequent incidence of classroom observation, the researcher has observed through her own professional experience that observation practices vary significantly between the three education systems of England, New Zealand and Western Australia. In the former two countries, observations of lessons by both senior and middle managers within a school are now relatively frequent. Indeed in England, mandatory limits have recently been placed on the total period of classroom observation allowed for any one teacher in any one performance management cycle (Dhanda, 2006).

Despite the regularity with which school leaders carry out formal lesson observations in other countries, it would seem that in Western Australia, the state in which the research reported in this thesis was conducted, there is no commonly accepted frequency of classroom observation nor a corresponding protocol. This research therefore conceptualised significant knowledge about how a programme of carefully managed lesson observations and feedback can best be used to impact on pedagogy in the Western Australian context.

1.3 Rationale and aims of the research

Rationale
Differentiation can be viewed as teaching in ways that cater for the different learning needs of students. Central to effective differentiation in the classroom is a planning process that creates learning experiences which support each student to make progress, irrespective of their academic ability or level of achievement. Differentiating teaching means that the curriculum is both supportive and challenging for all students and aims to avoid the findings of Bennett and Desforges (1984) who reported that fifty percent of the work set for high achievers was too easy and fifty percent of the work set for low achievers was too difficult. Hawkins (2009) described differentiating instruction as “not a goal, but a journey, albeit a non-linear one” (p. 4). Tomlinson (2003) defined differentiated instruction as a “proactively planned approach to what students need to learn, how they will learn it, and/or how they can express what they have learned in
order to increase the likelihood that each student will learn as much as he or she can as efficiently as possible” (p. 1).

Tomlinson and McTighe (2006) reassured busy teachers that “differentiation does not advocate individualization” (p. 19). Rather, they suggest that it is more feasible for a classroom teacher to implement patterns of instruction that are likely to serve the needs of many of the students they teach. Kyriacou (1986) suggested that “taking account of pupil differences is a key factor in thinking about effective teaching” (p. 78).

Recent discussions of pedagogical practice have focussed on why differentiation is not as common in the classroom as we might expect. Hawkins (2009), for example, noted a singular lack of success in implementing differentiated instruction to the degree he believed it should be and suggested three major reasons to explain why differentiating instruction has failed to become common practice in classrooms:

1. A lack of teacher confidence in their ability to promote student learning
2. A dilution of teacher efficacy
3. Inconsistent on-going professional development and personal perseverance.

These three reasons may, however, form only part of the story. Perhaps because teachers themselves experienced both school and university teaching that is undifferentiated, they are uncomfortable with using the idea in their own classrooms. Perhaps teachers simply lack the time necessary to plan and prepare differentiated lessons, whatever their beliefs on the subject. An assumption underpinning this research was that understanding the reasons for a lack of differentiated teaching and learning would be the first step to being able to plan strategies to assist teachers in improving this aspect of their planning.

Hawkins (2009) described differentiating instruction as a major, systemic, pedagogical change. He discussed the need for teachers to “share innovative knowledge and experience embedded within a dynamic curriculum and assessment platform” (p. 4) if the change is to be a successful one.
The rationale for this research is closely connected with the researcher’s teaching background, during the early years of which, most classes were streamed by ability. Consequently, the researcher was fascinated to observe that despite being academically non-selective, the Western Australian school in which she worked ran mainly mixed ability classes. Anecdotal evidence within the school suggested that teachers find they teach a wide range of abilities within a single class, yet practical classroom strategies to deal with this were not well developed. Thus, the researcher was interested in investigating the extent to which teachers feel the need to cater for the range of abilities within each class and how they can be supported to develop the skills needed to differentiate their instruction effectively to optimise the learning of all students.

**Aims**

The first aim of the research reported in this thesis was to investigate teachers’ beliefs about excellent pedagogy in their subject area, with a particular focus on differentiated instruction, and how these beliefs translate into classroom practice. The extent to which teachers’ beliefs and practice regarding differentiation are congruent was explored. The second aim of this research was to investigate the extent to which a programme of carefully managed lesson observations and subsequent, individualised feedback had an impact on teachers’ classroom practice and their beliefs about differentiation. Strategies for encouraging and supporting teachers to differentiate their teaching were developed and evaluated.

**1.4 Research Questions**

Research questions 1 to 3 were developed to address the first aim and Research Question 4 to address the second aim.

1. What are teachers’ beliefs about excellent pedagogy and differentiation in their subject area?

2. What are teachers’ pedagogical practices with regard to differentiation in the classroom?
3. In what ways are teachers’ beliefs and classroom practices regarding differentiation congruent?

4. What impact do group discussion, systematic lesson observation and subsequent feedback have on teachers’ beliefs and classroom practice regarding differentiation over time?

1.5 Originality and significance

The study reported here involved teachers reflecting on the teaching and learning taking place in their classrooms. Such research has three levels of significance. It is of direct benefit to the institution involved, as it develops both observational and feedback protocols as well as normalising the practice of formal lesson observations and enhancing teachers’ opportunities to be critically reflective practitioners. It also has significance for the education system in Western Australia, providing as it does models of best practice for differentiated teaching and learning as well as for supporting teachers in this reform, through observation, discussion and feedback. In terms of school accountability, it provides a way of monitoring whether the best possible educational outcomes for student learning are being promoted.

The research presented in this thesis makes a significant contribution to the literature in terms of investigating effective interventions to develop the pedagogical practices of classroom teachers. Blase and Blase (1999) identified strategies of effective instructional leadership and listed talking with teachers to promote reflection and professional growth as one of these strategies. The need to prepare and develop instructional leaders was emphasised, and training (for example, in theories of teaching and learning and action research methods) was seen as instrumental in the process. This research developed and evaluated techniques for instructional leaders to use when planning professional development activities for teachers, with the aim of improving differentiation practices in their classrooms. In this way, the research addressed Hawkins’ (2009) concerns about the lack of confidence shown by teachers regarding the implementation of differentiated instruction.
1.6 Thesis structure and overview

This introductory chapter has provided the background to the research, describing the rationale, aims and research questions to be investigated.

Chapter 2 provides a detailed review of the relevant literature on both differentiation and leadership of change.

Chapter 3 describes the methodology used in the research and justifies the choice of the qualitative research paradigm and case study design. The scene is set by describing the specific school and participants involved in the research as well as giving an account of reflexivity and the unique role of the researcher.

Chapter 4 provides an overview of the two phases of research. This is followed by a description of the data collection procedures used in Phase 1 of the research, showing how the starting position regarding differentiation in classrooms at the school was established by trailing individual students and holding focus group interviews with teachers in departmental groups as well as individual interviews with heads of departments. Methods of observing teaching and giving feedback to individual teachers are described and justified.

Chapter 5 describes the procedure used for Phase 2 of the research. Impressions of the eight teachers participating in the professional learning group are given via brief pen portraits and the process of setting up and facilitating the professional learning group is described. Ethical issues involved in carrying out this research are explored.

Chapter 6 outlines the findings of Phase 1, in which individual students were each trailed from class to class throughout an entire school day. The findings of lesson observations in subject-based departments and examples of individual feedback given are described, as are the findings of focus group interviews with heads of department and teachers in departmental groups.

Chapter 7 provides detailed pen portraits of the eight teachers involved in the professional learning group. The method used to develop a coding manual is described.
and the findings from coding the teachers’ individual interviews and group meetings are provided. The findings of lesson observations and discussions with the teachers are described.

Chapter 8 addresses the research questions in light of the findings, discusses the role of government and other educational leaders in processes of change. A model for the implementation of classroom change is proposed.

Chapter 9 presents a conclusion to the thesis and provides suggestions for policy, practice and future research.

1.7 Conclusion

This introductory chapter has outlined the background and rationale for the research as well as detailing the aims and posing four research questions for investigation. The originality and significance of the research was described and a summary of the subsequent chapters provides the reader with an overview of the thesis.
Chapter Two: Literature review

2.1 Introduction

This chapter provides a review of the literature in three main sections that are clearly aligned with the research questions. The first section reviews the literature relating to differentiation and provides a definition relevant to this thesis. This section considers the practical, legislative, ethical and educational reasons for classroom differentiation. The second section draws on the literature to investigate what can be considered excellent pedagogy. The third section focuses on changing pedagogy, the role of monitoring teaching and learning, the role of school leaders in effecting change and models of professional learning. These three sections of the literature form the conceptual framework that was used to guide the research methodology and provide the research context for the discussion of the findings.

2.2 Differentiation

Working with any group of people will inevitably reveal a variety of academic abilities, attitudes and levels of achievement. Although most school systems group students by age, Macqueen (2010) wrote of the “large range of student prior achievement in an age-based class” (p. 118) and Sousa and Tomlinson (2011) were right to point out that “few educators seriously debate whether a particular chronological age is a trustworthy predictor of a student’s academic accomplishments” (p. 8).

In fact, even when school pupils are grouped in classes because they are judged as being of a similar ability or achievement level, there inevitably exists a diverse range of skills, interests and intellectual capabilities and it is this difference in ability for which teachers often struggle to cater. Although many teachers may be well-versed in the problems associated with meeting the needs of the very able, average and less able pupils they encounter every day, few would claim to find dealing with such a wide range of abilities easy within a traditional classroom context.

Different educational institutions have at different times in history advocated various ways of organising their students into different groupings. Students in schools, for
example, may be predominantly ‘streamed’ or ‘setted’ and therefore divided into ability groups, or mainly taught within mixed ability classrooms. The Westchester Institute (2002) defined ability grouping as “the practice of dividing students for instruction on the basis of their perceived capacities for learning” (p. 1) and described classes grouped by ability as “homogenously grouped” and those of mixed ability as “heterogeneously grouped” (p. 1). Clearly, both homogenous and heterogeneous classes will still involve a range of students’ abilities or achievements, but homogenous classes will have a smaller range, presumably thus reducing the classroom teacher’s challenge of catering for such a wide audience. This may at least partly account for the suggestion of Ireson and Hallam (2001) that “at both primary and secondary level most teachers believed that teaching pupils in structured ability groups raised academic standards” (p. 109).

In this thesis, mixed ability teaching is the term used to refer to classes which are composed of pupils in a particular age group who are not grouped by achievement levels. Although many arguments have been put forward to justify mixed ability teaching, perhaps the most central one is that it avoids the labelling and depressed expectations of less able pupils which can occur when they are grouped together by setting or streaming them into one class (Kyriacou, 1986). Although students may have the opportunity to change from one ability group to another if their performance changes, practical reasons such as timetabling constraints and class sizes can mean that this does not always eventuate.

Poole (2008) suggested that the traditional use of ability groups can be seen as contributing to the selective function of the school as part of their role in sorting students. He pointed out that one of the longer term consequences of setting or streaming students can involve perceptions or labels associated with group membership becoming fixed over time, which can, in turn, mean that movement to higher-level groups is unlikely. The INCLUDE-ED Consortium (2009) considered the separation of students into vocational or academic divisions in schools in Europe, which was referred to as ‘tracking’. A number of negative consequences of such tracking procedures was listed for students who were placed into vocational as opposed to academic groupings in school. These included the reinforcement of family background influences, the reduction of long-term opportunities for inclusion in the labour market and decreasing the likelihood of continuing their secondary studies, which can lead to exclusion from
the workforce. They concluded that “when educational systems postpone tracking, they reduce the inequalities between students and schools” (p. 24). This assertion is supported by the findings of Ireson and Hallam (2001) who reported teachers’ beliefs that “mixed ability classes provide the less able pupils with positive models of achievement” (p. 117).

Other negative effects of setting or streaming have been reported by researchers such as Slavin (1990), including the lowering of self-esteem and co-operativeness as well as decreasing mutual respect of students. Harlen and Malcolm (1999) agreed, listing disadvantages of streaming for low-achieving children including having to deal with disruptive behaviour and more off-task talk than those who are put in higher streams.

Regardless of the documented negative effects of setting or streaming, teaching mixed ability groups may also prove particularly challenging for the classroom teacher. One of the most challenging difficulties for teachers leading a mixed ability classroom is catering for the diverse learning needs of their students. Differentiated instruction or differentiated teaching is one way in which teachers can plan for both high ability and low ability students within the same classroom to make appropriate progress.

Differentiating teaching and learning to cater for different students is by no means a new idea. Hull (1993) suggested that it has to be considered even when students are setted or streamed, as such groups will still inevitably include students of varied abilities and achievements. Kyriacou (1986) reinforced this idea, saying that “the problem of meeting the needs of the very able, average and less able pupils faces not only the school as a whole but also the individual class teacher, since even in classes composed of pupils selected as being of relatively similar ability there exists a marked range of ability” (p. 81).

More recently, Sousa and Tomlinson (2011) both reminded and reassured teachers that “differentiation is neither revolutionary nor something extra. It is simply teaching mindfully and with the intent to support the success of each human being for whom we accept professional responsibility” (p. 9). Their model “begins with the assertion that differentiation is a teacher’s response to learner needs” (p. 10) and the strategies they
put forward show that it is not necessary to group students according to achievement levels to cater for their learning needs.

Defining differentiation in a classroom context, however, is not as simple as it might at first seem. Clare (2004) defined differentiation as “the adjustment of the teaching process according to the learning needs of the pupils” (p. 1) and pointed out that the British Department for Education and Skills (DfES) produces publications “characterised by lots of exhortations to do it, but little advice on what it is or how” (p. 1).

It could be argued that many of the strategies Tomlinson and Allan (2000) listed as differentiation techniques (having high expectations for all students, letting them progress at their own pace through new material and providing different avenues to acquiring content, to processing or making sense of ideas) are merely good teaching strategies. As Kyriacou (1986) pointed out, “taking account of pupil differences is a key factor in thinking about effective teaching” (p. 78).

Hall, Strangman and Meyer (2003) described differentiation as “a compilation of many theories and practices” (p. 6) and admitted that the literature of differentiated instruction can lack empirical validation. However, authors such as Tomlinson (2001) have reported promising results of individual cases where using differentiation in the classroom has yielded remarkably successful results.

Based on this review of the literature, differentiation can be seen as involving teachers recognising differences between students and planning to take these into account, with the goal of maximising student learning and promoting success and achievement. For the purposes of this research, the term differentiation will be used to mean ‘teaching in ways that cater effectively for the different learning needs of students’.

2.2.1 Justification of differentiated teaching

Whether or not students are grouped according to their perceived abilities or achievements, there are many and varied arguments presented in the literature which justify the need for differentiation in any modern classroom. In the next four sections of
this literature review, reasons for differentiation have been classified as practical, legislative, ethical and educational.

2.2.1.1 Practical reasons to differentiate

In terms of practical reasons to differentiate, Tomlinson, Brimijoin and Narvaez (2008) suggested that students in today's schools are becoming more academically diverse and that there are more students identified with special educational needs, more students for whom the language of instruction is not their first language and more students struggling to read than in previous decades. The authors go on to mention the need to ensure challenge for advanced learners when accountability pressures focus on basic competencies and a growing economic gap that exists between groups of students. If this divergence in student ability is a real one, then teachers’ ability to differentiate their teaching is increasingly important.

Powell (1991) described the need for all students to experience regular periods of success, and points out that for this to be possible, assignments must be developed to provide for students’ different learning needs. Without such opportunities, some students’ self-esteem inevitably suffers. In practical terms, experienced teachers know that if students are given work at an appropriate level, they will be more interested, more motivated and better behaved than if they are given tasks that are either too simple or too complex.

Sousa and Tomlinson (2011) described their instructional model as “learner centered in that it accepts the premise that a teacher’s role is not simply to cover material or to expose students to content, but rather to maximize student learning” (p. 8). They wrote of the need for teachers to look for ways of learning that work for each student and exhort teachers to “build bridges between critical content and student interests” if the content “seems irrelevant to or disconnected from a student’s world” (p. 8). It is clear that there are many practical reasons that justify the need to differentiate teaching and learning.
2.2.1.2 Legislative and ethical reasons to differentiate

In terms of legislative justifications for differentiation, many decades ago in the United Kingdom, the 1944 Education Act stated the legal requirement that all children receive an education related to their age, ability and aptitude. More recently, state bodies have attempted to legislate to ensure teachers consider inclusivity when catering for different learners in their classrooms. The Curriculum Council Western Australia (1998) published the *Curriculum Framework*, for example, which described the need for teachers to practise inclusivity, recognising and accommodating “the different starting points, learning rates and previous experiences of individual students or groups of students” (p. 17). The framework described its learning outcomes as aiming “to ensure that students achieve their personal best” (p. 3) and made it clear that equity does not mean that all students should be given the same resources. To ensure inclusivity, learning experiences should accommodate differences between learners. The document explicitly stated that:

A supportive learning environment … does not imply the same environment for all. Indeed, special provision may often be necessary to ensure that all students are given the opportunity to achieve intended outcomes. (p. 36)

Similarly, the Australian Education Act (2012) acknowledges that:

All students in schools are entitled to an excellent education, allowing each student to reach his or her full potential so that he or she can succeed and contribute fully to his or her community, now and in the future. (p. 1)

The first goal of the Melbourne Declaration (2008) also promotes equity and excellence in Australian schooling, stating that:

… improving educational outcomes for all young Australians is central to the nation’s social and economic prosperity and will position young people to live fulfilling, productive and responsible lives. (p. 7)

It also urges all school sectors to work to “promote personalised learning that aims to fulfil the diverse capabilities of each young Australian” (p. 7).

More recently, the Australian Curriculum and Reporting Authority (ACARA, 2013) recognised the importance of the Australian Curriculum catering for a diverse range of
students and committed to “the development of a high-quality curriculum for all Australian students”, emphasising that it should promote:

… excellence and equity in education. All students are entitled to rigorous, relevant and engaging learning programs drawn from a challenging curriculum that addresses their individual learning needs. (www.acara.edu.au)

Starratt (2009) claimed that educational leaders who are administrators have the responsibility to see that the teaching and learning occurring in the classroom is of “a high level of ethical enactment” (p. 77). This author described the need for teachers to know their students well so they can “scaffold the learning tasks to respond to the background, interests and prior experience of their students” (p. 77).

Davies (2009) warned teachers to “be aware of the dangers of ‘one size fits all’ policies” and reminded us that “school processes and structures work to the benefit of some students and to the disadvantage of others” (p. 6), reinforcing the need for teachers to deal with different types of learners differently if they are to be fair. Teachers have both ethical and legislative obligations to plan for differences in the learning abilities of their students.

2.2.1.3 Educational reasons to differentiate

Vygotsky (1962) investigated psychological testing of children in schools, advocating that testing be based mainly on a child’s potential development as opposed to merely their current level of achievement. He coined the term ‘zone of proximal development’ which he defined as:

… the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers. (p. 86)

More recently and more simply, Cole and Cole (2001) described the zone of proximal development as the distance between what a child can do with and without help.
McLeod (2010) suggested ways in which Vygotsky’s theory can be used in a more modern setting to support students’ learning from texts. His description of ‘reciprocal teaching’ involved the teacher working with students until they become more competent at a task and then reducing teacher input gradually as time goes on. It is also possible to see how Vygotsky’s theory is consistent with collaborative learning practices where students working in small groups of different ability levels are able to work together, so that more of those present are operating within their zone of proximal development.

Wood, Bruner and Ross (1976) introduced the term ‘scaffolding’ to describe how teachers plan to introduce new ideas or concepts in small steps based on activities the student can already perform on their own; after which the teacher gradually withdraws support until the student is working independently on all tasks. They listed processes which enable more effective scaffolding to take place, including simplifying a task, demonstrating the task and emphasising which aspects will help to solve it.

The evidence presented thus far suggests that a learning environment that does not take into account learning differences will neither be able to scaffold appropriately nor ensure that students are learning in their zone of proximal development. This, in turn, implies that a non-differentiated learning environment will not be particularly effective for a group of academically diverse students. Differentiating teaching is one way in which teachers can work to cater for the learning differences between students. Hall, Strangman and Meyer (2003) described differentiated instruction as:

… an instructional process that has excellent potential to positively impact learning by offering teachers a means to provide instruction to a range of students in today’s classroom situations. (p. 6)

2.2.2 Reasons why not all teachers differentiate

If students’ abilities vary so significantly and there are numerous reasons why teachers should differentiate their teaching, it is reasonable to ask why differentiation is not as common a feature of the modern day school classroom as we might expect.

Differentiating a lesson at the planning stage, however, is no easy matter. It necessitates judging the prior knowledge and learning abilities of the various students and
subsequently planning activities that aim to support them all in their learning.

Difficulties arise because students’ educational attainment is influenced not only by their general academic ability but also by motivation and aspirations, parental encouragement and help and the relevance, interest and familiarity of the school curriculum (Kyriacou, 1986). As simple a task as choosing an appropriate text, ostensibly a relatively easy job for a teacher, necessitates judging the reading level to check its appropriateness for the students who are to use it. If it is too easy, the more able student will find no challenge, may feel patronised and will almost certainly lose interest (Powell, 1991). Weaker readers may have other, significant problems in accessing text which is too complex for them.

While differentiating teaching is no easy matter, the issue for educational leaders is that encouraging teachers to cater for varied student groups also is difficult. Changing teachers’ practice towards a consideration of differentiated classrooms is a complex change, as it directly affects how teachers think about and carry out their work and often means an increase in workload. This makes it demanding both for those teachers and for all leaders who have the potential to improve classroom practice by encouraging and supporting these changes.

Time is notoriously in short supply in teachers’ professional lives and this may well contribute to the scarcity of differentiation seen in classrooms. Southworth (2009) pointed out that:

... because classrooms are such busy and dynamic places there is always a great deal to make sense of, to process and refine into professional craft knowledge. Without dialogue and interested listeners who help us to set out our experience we often do not process the day-to-day actions and learn from them as much as we might. (p. 98)

Although teachers may reflect individually on their classroom experiences, this observation reinforces the importance of educational leaders in supporting teachers’ collaborative discussions and reflections regarding the differentiation of their teaching.

Differentiation also may be relatively uncommon because some teachers are not yet convinced that differentiating their teaching is necessary to optimise students’ learning. They may well have experienced no differentiation in their own schooling or during
their teacher training. Everest’s (2003) article in the Guardian newspaper entitled “Differentiation – the new monster in education” reflected some teachers’ cynicism about the need to cater for different abilities and learning preferences in their teaching and claims that managers are proponents of differentiation:

… to cover their own backs and respond to the pressures of funding bodies, which use such notions as a lever to increase productivity without paying for it. (p. 1)

The fact that there are few resources and programmes regarding differentiation available to teachers contributes to the issue. Although examples and applications of differentiated instruction do already exist, Hall, Strangman and Meyer (2003) described them as “admittedly hard to come by” (p. 16). They pointed out that even though such models are available:

… teachers face challenges in implementing them: the challenges of shifting away from traditional views of intelligence and traditional reliance on print media, the challenge of acquiring and mastering new technology, and the challenge of garnering support from the school system. (p. 16)

Tomlinson and McTighe (2006) concurred that a dearth of relevant resources makes differentiating unnecessarily difficult and suggested that:

… at least a part of the reason so many of us fall short of implementing the kind of responsive classrooms we believe would help students succeed is that we have few models of how such classrooms would look and little personal experience with the concept. (p. 40)

The result of a dearth of successful models of differentiation, according to Tomlinson and McTighe (2006), is that we don’t really know how to get from the current situation to a stage where most teachers are sufficiently skilled at differentiation. They suggested strategies that set a course for movement toward the kinds of classrooms that support the success of academically diverse student populations. Examples of these strategies included assisting students to “connect the big ideas and essential questions of the unit with their backgrounds, interests and aspirations” (p. 163) and routinely providing “for student differences in readiness, interest and mode of learning” (p. 164).

Other concerns teachers may have relate to the potential for complaints from parents. Teaching in a differentiated way inevitably necessitates using different resources and
strategies with different pupils and some teachers and parents express concern that this may be seen as ‘unfair’ by pupils who are experiencing different learning techniques and content. The key to effective differentiation is that it is considered at the planning stage and that teachers realise that the aim of differentiated teaching is to support each student to make appropriate progress, irrespective of their prior knowledge or academic ability. Anecdotal evidence suggests that such differentiation is an aspect of classroom practice that is more prevalent in primary classrooms in Western Australia than in senior classes. One possible reason for this is that primary teachers are more likely to know their students’ strengths and weaknesses simply because of the greater time they spend with each one.

2.3 What is excellent pedagogy?

Although Moore (2004) suggested that “any search for a single model of ‘good teaching’ is ultimately doomed to failure” as “each teacher must, ultimately, discover their own ‘best way(s)’ of doing things” (p. 25), an exploration of what constitutes excellent pedagogy is key to the process of considering how good teaching practices can be shared and disseminated within the profession. In this thesis, the term ‘excellent pedagogy’ is used to include both teaching and learning.

Jensen and Reichl’s (2011) influential report was based on work in South East Asia but applies equally to the Australian context. The primary aim of their report was to suggest ways that educational systems could improve teacher appraisal and feedback, which would in turn affect outcomes for students by improving teaching and learning. They began by pointing out that:

All studies show that more effective teachers are the key to producing higher performing students. Conservative estimates suggest that students with a highly effective teacher learn twice as much as students with a less effective teacher. (p. 3)

As Hattie (2009) reported following his meta-analysis of many educational studies:

Not all teachers are effective, not all teachers are experts, and not all teachers have powerful effects on students. The important consideration is the extent to which they do have an influence on student achievements, and what it is that makes the most difference. (p. 34)
Good teachers using excellent pedagogical practices positively affect students’ progress. In discussing educational goals, the Ministerial Council on Education (2008) affirmed in its *Melbourne Declaration on Educational Goals for Young Australians* that:

> Excellent teachers have the capacity to transform the lives of students and to inspire and nurture their development as learners, individuals and citizens. They provide an additional source of encouragement, advice and support for students outside the home, shaping teaching around the ways different students learn and nurturing the unique talents of every student. (p. 11)

The Ministerial Council conveyed the strong view that effective teachers make a real difference to the students they teach and this view has had a significant impact on the development of the Australian Curriculum (Australian Curriculum, Assessment and Reporting Authority, 2013).

Older sources such as Marland’s *Craft of the Classroom* (1975) tended to refer to the teacher as a ‘trained craftsman’. More recently, Moore (2004) referred to an increase in popularity of the term ‘competent teacher’, referring to teachers trained in certain competences. These included such varied aspects of their work as assessment, recording, reporting and classroom management, all leading “to the achievement of prescribed, assessable standards” (p. 3). It is possible that the use of this term may reflect current considerations of how to more effectively monitor and evaluate the effectiveness of teachers’ practice.

The purpose of the *National Professional Standards for Teachers* (Australian Institute for Teaching and School Leadership Limited [AITSL], 2011) was given as follows:

The *National Professional Standards for Teachers* are a public statement of what constitutes teacher quality. They define the work of teachers and make explicit the elements of high quality, effective teaching in 21st century schools which result in improved educational outcomes for students. The Standards do this by providing a framework which makes explicit the knowledge, practice and professional engagement required across teachers’ careers. They present a common understanding and language for discourse between teachers, teacher educators, teacher organisations, professional associations and the public. (p. 4)
These standards describe what constitutes effective pedagogy and their development is described by AITSL (2011) as “an integral part of ensuring quality learning and teaching in Australian schools”:

With the development and implementation of the *National Professional Standards for Teachers*, Australian education systems are well placed to be among the best in the world. (p. 9)

The *National Professional Standards* comprise seven standards for Australian teachers “which outline what teachers should know and be able to do” (p. 3) and have been endorsed by all Australian Education Ministers. Classified into three domains (professional knowledge, professional practice and professional engagement), the standards provide descriptors for educators at four levels of teaching – ‘graduate’, ‘proficient’, ‘highly accomplished’ and ‘lead’. The aim is for these standards to be used to directly affect the classroom practice of teachers in Australia.

Ensuring the quality of teaching is an obvious focus when governments recommend changes for education systems. Pierce and Stapleton (2003) exhorted that “the primary focus of any reform effort should be the quality of instruction” (p. 4) and went on to outline their ideals and attempt to describe what they envisaged would result from ‘quality instruction’:

We want to create lifelong learners. We want knowledgeable and caring teachers. We must attend to all different kinds of students and be prepared to address individual needs. We should teach values and model what it means to be moral human beings. We should teach children how to learn and how to access information. We should teach the arts to children and help them learn to cooperate with one another. We should teach and demonstrate good citizenship. We should provide safe places for students and teachers to take risks. We want children involved in the planning of their learning, and parents must be more involved as well. (p. 4)

Further exploration of what constitutes effective teaching is provided by Jensen & Reichl (2012) in their report *Catching up: Learning from the Best School Systems in South East Asia*, commissioned by The Grattan Institute. These researchers asked the question ‘What is effective learning and teaching?’ and described the deep analysis of learning and teaching undertaken by various educational systems in East Asia before the successful introduction of recent reforms. The researchers stated that “This report does
not seek to prescribe a definition of effective teaching and learning”, but drew on other research to discuss attributes of teaching that have a positive effect on student learning, such as those identified by TALIS, the Organisation for Economic Co-operation and Development’s (OECD) Teaching and Learning Internal Survey (2009). These included the content knowledge of teachers, the pedagogical knowledge of teachers and “teaching practices that focus on clear and well-structured lessons supported by effective classroom management” (p. 15).

Jensen et al. (2012) stated that a key aspect of teaching that improves learning is “active professional collaboration” and go on to describe key elements of this collaboration as “classroom observations, team teaching and constructive feedback” (p. 15). Other researchers focussed on more personal attributes. For example, O’Hanlon and Clifton (2004) asked what a principal tends to look for when recruiting a teacher and suggested that they seek:

Someone who is open, honest, hard working and energetic, and who does not have a lot of emotional baggage. Someone who shares the principal’s commitment to students and who is determined students will learn. Someone who has a passion to help students grow. (p. 41)

They emphasised the importance of teachers liking their students, being able to work effectively with other staff and continuing to learn. They commented that “Teaching done right is a brutally hard job. It takes great people to do it right” and said that they aim to hire teachers who “want to teach” (p. 41). Any job which requires people to engage in “200,000 interchanges a year, most of them spontaneous and requiring action” (p. 2) is obviously going to be challenging (Southworth, 2003). O’Hanlon and Clifton (2004) also understood that hiring great teachers is not the end of the process in terms of developing staff and pointed out that “Once you have these teachers on board you need to help them build capacity and empower them”, citing the need to “continue to provide support and training for them on an ongoing basis”. They concluded that it is the role of the principal “to make certain that teachers are successful in the classroom” (p. 41).
Hattie (2009) asserted that the focus of discussions regarding the quality of teaching too often “emphasizes the personal and professional attributes” of teachers (p. 126) as opposed to targeting how teachers affect student learning. He argued that:

We should constrain our discussion from talking about qualities of teachers to the quality of the effects of teachers on learning – so the discussion about teaching is more critical than the discussion about teachers. (p. 126, original emphasis)

Although Hattie (2009) conceded that teachers are powerful influences on the lives of students, he concluded that “it is teachers using particular teaching methods, teachers with high expectations for all students, and teachers who have created positive student-teacher relationships that are more likely to have the above average effects on student achievement” (p. 126, original emphasis).

Hattie’s (2009) synthesis of more than 800 meta-analyses relating to achievement included a comprehensive list of “Aspects of teaching approaches that are associated with student learning” (p. 36). These successful approaches included paying deliberate attention to learning intentions and success criteria; setting challenging tasks and providing multiple opportunities for deliberative practice. He also emphasised the importance of planning and discussing teaching and “ensuring the teacher constantly seeks feedback information as to the success of his or her teaching on the students” (p. 36).

2.4 Leadership of change and the importance of student learning

The goal of educational leadership is always to improve outcomes for students through improving teaching and learning practices. Linking classroom practice and leadership of change is essential when considering strategies leaders can use to affect what teachers do in their classrooms.

York-Barr and Duke (2004) defined teacher leadership as:

… the process by which teachers, individually or collectively, influence their colleagues, principals and other members of the school community to improve teaching and learning practices with the aim of increased student learning and achievement. (p. 257)
Not all definitions relate specifically to educational contexts, but Patterson’s (1993) description of organisational leadership as “the process of influencing others to achieve mutually agreed upon purposes for the organization” (p. 3) hints at the importance of having clear goals to strive for and can be applied equally effectively to schools.

Murphy, Elliott and Goldring (2008) insisted that “not all leadership is equal” (p. 3) and to improve student learning, leaders need to “stay consistently focused on learning the core technology of schooling: learning, teaching, curriculum and assessment” (p. 3). They described the most effective learning-centred leaders as “knowledgeable about and deeply involved in the instructional program of the school … spending considerable time on the teaching function” (p. 11).

Few would argue that effective leadership is essential to enable teachers to do their job well. Yukl (2002) concluded that leadership is a key variable in creating organisational success and England’s Office for Standards in Education (OFSTED, 2003) reported that “consistently effective teaching across all subjects in a school is unlikely without strong and effective leadership and management” (p. 7). The observation that in the schools whose OFSTED inspection revealed that “leadership and management were judged ‘very good’, the quality of teaching was ‘good or very good’” (p. 19) is an important association.

Given that teaching and learning processes form the core business of any school, Clarke and Dempster (2006) explained that school improvements are, therefore, effectively changes that help students learn. Accordingly, the Curriculum Framework (Curriculum Council Western Australia, 1998) described its essential purpose as being “to improve the learning and achievement of all students” (p. 3). Southworth (2003) described school leadership as “fundamentally concerned with learning” and pointed out that “Learning is the key to improving and transforming our schools” (p. 1).

If student learning is to be optimised, then leadership strategies to encourage and support teachers to change their practice must be considered. Davies and Davies (2009) pointed out that “There is little purpose in having a future view for a school or setting priorities which require action, if these are not shared” (p. 29). It is clearly important
for leaders to make their priorities known to those who need to ensure they are implemented.

Many teachers do not find change easy to deal with. Southworth (2003) suggested that “teachers may, professionally and psychologically, be ill-disposed to dealing with change” (p. 2), accustomed as they are to being in control. He suggested that teachers “cling to as much stability as they can create”, as a strategy to deal with how unpredictable their work can be. MacBeath (2006) pointed out the apparent contradiction that although change may seem rapid, it is actually a slow process. In the conclusions of School Innovation: Pathway for the Knowledge Society, Cuttance (2001) highlighted the importance of concentrating on student learning as the rationale for organisational change.

2.4.1 Monitoring teaching and learning in schools

Inspection is a term generally used to describe the process of external agents assessing the quality of a school Wilcox (2000). However, part of the role of internal school leaders is to monitor the effectiveness and quality of teaching and learning in their schools. Clarke and Dempster (2006) described the way schools:

… are asked to measure their standards of performance, their current strengths and the success of their strategies and directions for change against agreed benchmarks ….. Schools are expected to use internal monitoring processes involving a cycle of performance data collection, analysis and interpretation followed by the implementation of strategic action to maintain good practice and improve outcomes. (p. 27)

Southworth (2009) described the widely accepted method of monitoring teaching and learning which “involves visiting classrooms, observing teachers at work and providing them with feedback” and commented that, despite the subjective nature of feedback, “the intention is to make this process educative and developmental for both parties” (p. 97).

Lesson observations and subsequent feedback may be time-consuming and at times involve difficult conversations, but they do have their advantages. O’Hanlon and
Clifton (2004) described an elementary school principal who says that visiting classes is one of his antidotes to adversity:

> Going to watch kindergarten students involved in learning is a guaranteed way to feel better about things … Visiting classes gets you back to why you are in this business. Seeing the wonderful things that teachers and students do together is always a good pick-me-up. (p. 55)

Monitoring classrooms is now an accepted part of leadership. Moreover, OFSTED found that there is a strong link between very good monitoring and good or better teaching (OFSTED, 2003). Where monitoring is effective, the quality of teaching is noticeably higher than in schools where monitoring is poor and infrequent.

Monitoring enables school leaders to build up a detailed knowledge of their teachers’ strengths, skills and professional development requirements. Effective school leaders put in place processes that enable the school to become a learning community – one where the teachers work together to share their pedagogical knowledge with colleagues, so that they can all benefit from each others’ experiences. Lesson observations can, therefore, be a vital part of working out which teachers could work together to support their pedagogical development and to initiate effective peer mentoring or coaching.

### 2.4.2 Why monitoring teaching and learning can be difficult

The concept of monitoring teaching and learning by observing lessons is not, however, universally accepted as useful by practising teachers. Pierce and Stapleton (2003) commented that:

> Many teachers do not believe that learning problems can be solved by inquiry, by evidence and by science. They do not believe that it is necessary to have a developmental theory of how students learn the content or how the pedagogy relates to the development of knowledge and content. Nor are most teachers interested in addressing the intellectual and professional challenge that some of their students will learn the content and some will not. (p. 12)

Teachers clearly need to accept the challenge posed by Pierce and Stapleton (2003) and ensure that all students learn, but these researchers described American schools as having a strong tradition of teachers working as separate individuals, each with their
own individual style, and subscribing to the view that professionalism equals autonomy. Their classroom visits and subsequent questioning of “Why are you teaching in this way?” were sometimes viewed as a violation of the teacher’s autonomy. Pierce and Stapleton describe this as an “intellectual and professional challenge”, implying that it is not desirable – teachers should not be satisfied that some students fail to learn.

Fink and Resnick (2001) further reflected views that teachers ought to have total autonomy in their classrooms when they described the oft-held belief that pedagogy is:

the professional purview of the individual teacher and that intervention of a supervisor or principal is an intrusion on the teacher’s professional judgment and prerogatives. (p. 599)

However, research findings regarding the significant results of effective review systems suggest that persevering with the infiltration of classrooms for observational purposes is worthwhile. Jensen and Reichl (2011) described research that confirms “better appraisal and feedback for teachers is the most effective program available” (p. 6), claiming it can improve their effectiveness by 20 to 30 percent (Fuchs and Fuchs, 1985, 1986).

Jensen and Reichl (2011) asserted that “providing meaningful feedback to teachers is the best way to improve teaching and learning” and provided eight methods from which they advised schools to “choose at least four of these methods to assess teachers’ performance” (p. 9). The methods they listed included analysing student performance on assessments, peer observation and collaboration and direct observation of classroom teaching and learning as well as student surveys and feedback, self-assessment and external observation.

Hattie (2009) confirmed the importance of feedback from students to teachers with his claim that meaningful feedback which makes classroom teaching better has the most impact on student learning. It is clear that leaders who ignore the significance of providing classroom practitioners with constructive and useful feedback on their work are depriving their staff of a valuable form of professional development and, in doing so, may well be short-changing their students.
It is not reasonable, however, to expect principals to be instructional experts in every subject area. Rather, Fullan (2008) suggested they should involve themselves in instructional leadership, attending professional learning alongside their teachers, focussing the school’s resources on supporting teaching and spending the majority of their time involved in instructional issues rather than “general symbolic stuff” (p. 54). Southworth (2003) argued that “we should think of leadership being ‘learning centred’ rather than instructional” (p. 9) due to the need for school leaders to focus not only on classroom teaching but also on other issues that, in turn, serve to improve teaching and learning.

2.4.3 The role of school leaders in effecting change

Even when the importance of monitoring and evaluating teaching is understood, the various roles of educational leaders are not always clear and well defined. Muijs and Harris (2003) described the confusion that exists regarding the exact meaning of teacher leadership and describe the “overlapping and competing definitions of the term” (p. 438). They pointed out that:

teacher leaders are, in the first place, expert teachers who spend the majority of their time in the classroom, but take on different leadership roles at different times”. (p. 438)

From this perspective, principals are not the only staff members in schools who can work with teachers to develop and improve their teaching practice. The findings of a study by Leithwood, Jantzi and Steinbach (1998) suggested that teacher leadership had a significantly greater effect on student engagement than principal leadership, leading the researchers to conclude that distributing a larger proportion of current leadership activity to teachers would have a positive influence on both teacher effectiveness and student engagement.

Despite difficulties encountered when defining the role of educational leaders, most other researchers suggest that educational leaders do play a pivotal role in changing and improving teaching practice. For example, Reeves (2006) claimed that “Leaders are the architects of individual and organizational improvement” (p. 27) and Sammons, Mortimore and Hillman (1995) pointed out that school effectiveness researchers “have consistently emphasised the importance of leadership” (p. 8). A summary of their
findings from school effectiveness research concluded that in both primary and secondary schools, leadership was a significant factor in virtually every study of school effectiveness and OFSTED’s report entitled *Leadership and Management - What Inspection Tells Us* (2003) stated that the vast majority of reports it writes make the importance of good leadership eminently clear.

The emphasis on effective school leadership affecting what goes on in the classroom is reinforced by Leithwood and Riehl (2003) whose analysis of research on successful school leaders demonstrated that the significant effects of leadership on student learning are second only to the effects of the quality of the curriculum and teachers’ instruction. They referred to OFSTED’s (2003) description of the importance of a clear vision, sense of purpose and “a relentless focus on students’ achievements, along with knowledgeable and innovative leadership of teaching and the curriculum” (p. 93). It is interesting to note that the research on student achievement seems to refer solely to academic achievements and not to more personal attributes such as the values or character traits developed by the school, presumably because of difficulties associated with the measurement of these other factors.

All the evidence discussed thus far suggests that if educational leaders want to effect positive change, then school leadership should focus mainly on teaching and learning. This idea is further developed by OFSTED’s (2003) findings that effective leaders have a clear vision and sense of purpose. Learning and teaching undoubtedly lie at the heart of successful school leadership, no matter to whom the task of developing it is delegated.

Clearly, the role of leaders should not be underestimated when change is needed. In the case of encouraging and supporting the need for increased differentiation in the classroom, school principals and other senior leaders play a significant role in that change. It is not enough to let teachers teach and assume that they will have the desire and the ability to reflect on their practice and consequently improve; as Southworth (2009) reminded us, teachers are busy professionals with a lot to do, and “without leaders to facilitate our learning we sometimes learn very little from our work” (p. 98). This facilitation can take the ‘carrot’ form of providing professional development and encouraging support; or the alternative, ‘stick’ approach of stating expectations and
monitoring whether or not those expectations are met may be necessary. Novak (2009) described the job of educational leaders as one in which they “call forth, sustain, and extend peoples’ abilities to savour, understand, and better more of their individual and collective experiences” (p. 62), emphasising the need for school leaders to be proactive in their quest to support teachers to reflect and improve practice.

In 2008, the Education Ministers of all Australian states and territories signed the *Melbourne Declaration on Educational Goals for Young Australians*. Integral to this document was the statement confirming the collective view that school leaders are pivotal to educational change:

> School principals and other school leaders play a critical role in supporting and fostering quality teaching through coaching and mentoring teachers to find the best ways to facilitate learning … School leaders are responsible for creating and sustaining the learning environment and the conditions under which quality teaching and learning take place. (p. 11)

The pivotal role of school leaders in changing teaching strategies also is considered by other authors. Southworth (2002), for example, investigated leadership in schools of varying size and found that a common theme regarding what constituted a successful principalship was the fact that all the principals deemed successful were improving their schools; whatever the context, none was satisfied with the school’s performance levels remaining as they were, no matter how well they were already performing. Various strategies were used by these leaders to improve the quality of teaching and learning in the school; the three strategies that stood out in the research were modelling, monitoring and professional dialogue and discussion. It is noteworthy that all three of these strategies involve a significant investment of time, an aspect of the principalship that is often in least supply, however noble the intentions of the incumbent.

O’Hanlon and Clifton (2004) suggested that it is “the principal’s job to make certain that teachers are successful in the classroom” (p. 41) and Muijs and Harris (2003) echoed this view, claiming that “Effective or purposeful leadership is generally accepted as being a central component in securing and sustaining school improvement” (p. 2). Whether or not it is reasonable to invest such responsibility and so many expectations in a single leader is questionable.
Southworth (2002) studied the notion of instructional leadership and noted that the school principals he studied did influence pupil outcomes. He described these principals as “approachable, skilled in talking and listening to staff, monitoring classrooms, teaching and pupils’ learning, and evaluating pupils’ achievements and progress”. Leaders who possess finely honed skills in all these areas can make a significant difference to teaching and learning.

Southworth (2002) also suggested that instructional leadership requires individuals to be highly competent in the areas of curriculum knowledge, pedagogy, student learning, adult learning, change management, group dynamics, interpersonal relations and communications. He continued the list by adding that certain personal qualities and individual attributes such as high energy levels, resilience, determination, empathy and optimism also are important. Whether any human individual can be reasonably expected to fulfil this exhaustive list of skills and attributes is an interesting issue.

Starr (2011) cited statements collected from a number of Australian principals’ job descriptions and found that the language within these statements reflected the “conception of leadership embodied in one super-capable, multi-skilled, extraordinary individual who has all the answers” (p. 2). The expectation was that a leader should be:

- inspirational, a role model, an arbiter, a capacity builder … S/he must ensure the commitment and dedication of others; have insights and foresight; and achieve a vision. (p. 2)

Such a list may well put off potential candidates who cannot possibly imagine that they are able to fulfill such an unrealistic set of demands.

Hill (2001) also focused on this topic, stating that being an instructional leader implies that a principal should have an excellent knowledge of teaching and learning issues. He suggested that there are various reasons why school leaders “may lack sufficient knowledge of teaching and learning to provide adequate, let alone successful instructional leadership”. Principals who have been removed from classroom practice for significant periods of time also may lack credibility in the eyes of their staff, which can be a further obstacle to their ability to provide successful instructional leadership. Although principals and head teachers were once teachers themselves, their pedagogy is often:
… based on increasingly distant memories of a former life in the classroom. As a consequence, it is possible that the knowledge of teaching and learning possessed by many principals is more a hindrance than a help in informing the role of modern school leader. (p. 2)

School leaders’ focus on such management issues as marketing and financial matters also means that their professional learning may take a non classroom-based focus. This, in turn, can lead to further distancing from pedagogy and a lack of up-to-date knowledge of teaching practice. Fink and Resnick (2001) pointed out that with their “knowledge of teaching growing dated, they delegate questions of instruction and professional development to others” (p. 599) and Fullan (2008) reinforced this view when he described principals who “have not kept up with or cultivated their instructional expertise, [thus] gravitating towards the more concrete, tangible operational tasks” (p. 40). Southworth (2003) acknowledged that “there is always more time devoted to management than to leadership” (p. 7) but suggested that what was more important was “how Principals and other leaders use the time and opportunities to lead when they have them” (p. 7).

Hill (2001) concluded that more and more is expected of principals as leaders of modern educational organisations, but that these leaders may nowadays be less connected to their schools’ core business, “namely teaching and learning” (p. 3). Starr (2011) noted wryly that in her collection of statements from principals’ role descriptions, “only one school mentioned the requirement of the principal to have a genuine interest in, and understanding of, young people and their education” (p. 2). Clearly, the less time principals spend focused on teaching and learning, the further they can become removed from their influence on teachers’ core business in classrooms.

Various reasons to account for principals’ focus on aspects of their work other than teaching and learning have been cited. Haefele (1992) suggested that “One explanation of principals’ hesitation to evaluate teachers rigorously may be a lack of confidence in the evaluator role” (p. 338) and continued to explain that principals “seem unable and, in many cases, unwilling to devote sufficient time to do the evaluation task adequately” (p. 338). The issue of time-poor leaders also is covered by Holmes (2009), who suggested an urgent need for principals to “de-clutter their hectic daily schedules to
enable them to re-focus on instruction” (p. 4), something which he believed would strengthen instructional leadership.

In America, the research of Blase and Blase (1998) shows that leaders frequently overestimate what teachers learn from their classroom experiences and consequently may not realize the need to provide leadership and support so that teachers increase their pedagogical understanding. Reeves (2006) questioned how principals could possibly be expected to know enough about the reviewing process when:

in one recent study, we found that almost 20 percent of educational leaders had never been evaluated in their current position, and more than half of the remaining 80 percent received evaluations that were ambiguous, inconsistent, and unrelated to their most important responsibilities. (p. 33)

It is apparent that leaders’ own experiences of evaluation and feedback may not currently contribute to an understanding of what constitutes good practice in this area.

Blase and Blase (1999) carried out a study of more than 800 American teachers who answered a questionnaire aiming to identify and describe characteristics of effective principals who had enhanced their classroom practice. They found that effective principals built a professional learning culture in various ways, including talking openly and frequently with teachers about their classroom practice; making suggestions and giving feedback about classroom instruction and modelling teaching skills.

The increasing and arguably unrealistic expectations of principals have led to concerns that insufficient professionals of the right calibre will step forward to take on the role of principal – concerns that are not confined to any educational system or country. For example, D’Arbon, Duignan and Duncan (2002) stated that:

For a number of years there has been an increasing concern in Catholic education systems in Australia of the need to develop a strategy to ensure an ongoing supply of well-qualified and highly motivated principals. (p. 468)

D’Arbon et al. (2002) noted also anecdotal evidence that this situation is similar in other education systems both in Australia and “a variety of countries” (p. 468).

Given the enormous demands on principals, many have decided to delegate various aspects of their leadership. Holmes (2009) justified this position, explaining that with
less time and fewer resources, principals often delegate tasks and distribute leadership, often including the leadership of curriculum programmes and teaching and learning. Various models of delegation provide a clear focus on pedagogy across a school. Holmes (2009) described effective instructional leaders as having “a clear and almost laser-like focus on teaching and learning” and continued to describe how they “work alongside teachers to improve instructional practice and performance” (p. 3). His suggestions included the modelling of good teaching practice, leadership of discussions about pedagogy and an emphasis on teaching on learning. He concluded that “Instructional leaders have energy and enthusiasm for teaching and learning and are passionate around promoting a culture of pedagogical excellence” (p. 3).

Various efforts have been made to build the capacity of educators other than principals in terms of instructional leadership. In the Australian state of Victoria, educational leaders worked to develop instructional leadership using a framework that involved forming school networks and appointing regional network leaders who accept the responsibility of de-privatising classrooms (Department of Education and Early Childhood Development, Victoria, 2012). Emphasising the need to develop the capacity of school principals, they implemented strategies such as professional reading groups, learning teams, coaching and targeted professional development which aim to improve pedagogical knowledge.

The instructional rounds model (City et al., 2009) of visiting classrooms aims to grow instructional leaders from within a school or other educational institution. Learning communities of leaders identify good quality teaching and learning processes, then proceed to deconstruct them and develop them further in other classrooms within the school. City et al. (2009) described the instructional rounds model involving leaders visiting classrooms to observe practice and asking three questions to focus their thinking on the instruction taking place:

1. What are teachers doing and saying?

2. What are students doing and saying?

3. What is the task? (p. 88)
During the process, observers make factual descriptions regarding the tasks students are carrying out and later analyse those observations to predict what learning would take place if students did everything the teacher had planned (Teitel, 2009). Suggestions are then made regarding what resources and support could be provided to ensure good classroom practice in the school. City et al. (2009) pointed out that offering solutions to problems and recommending action led to targets being set, “more for administrators and other leaders (including teacher leaders) than for individual teachers” (p. 125).

2.4.4 Models of teacher training and professional learning

When considering effective ways to effect changes in classroom practice, teacher training institutions would seem to be the most logical place to start. In the House of Representatives’ (2007) *Report on the inquiry into teacher Education*, improvements were put forward for all stages of teacher preparation. All aspects were covered, including a review of funding, further research and partnerships to allow more effective work with teacher supervisors in classrooms. The *Smarter Schools National Partnership* (Department of Education, Employment and Workplace Relations, 2010) advocated the development of a standards-based framework to improve teacher training courses and accredit qualified teachers. It is clear that there is much work still to be done during the earliest stages of teacher qualification and development.

Darling-Hammond (2010) commented that the debate about whether preparation of new teachers and certification are related to teacher effectiveness is a contentious one. She went on, however, to assert that the future of America and teacher education in that country are inextricably linked and suggests that the future of the United States “rests on our ability, as individuals and a nation, to learn much more powerfully on a wide scale” (p. 35) which, in turn, depends on effective teaching. Darling-Hammond (2010) concluded that it is the colleges of teacher education which have the main responsibility for transforming teaching and learning and states that more affluent schools tend to have better qualified teachers who have an effect on students’ education “larger than the effects of race and parent education combined” (p. 39), highlighting the importance of well prepared teaching staff.
In an attempt to ensure that good teaching is not seen as a “magical or haphazard occurrence” (p. 44), Darling-Hammond (2010) described features of the most powerful teacher training programmes. Characteristics included translating analysis into action, using professional teaching standards and providing both constructive feedback and opportunities for “systematic reflection on student learning in relation to teaching” (p. 40). They also required lengthy periods of time spent teaching a wide range of students in schools, directly supervised by expert teachers. Darling-Hammond’s (2006) previous research had led to a conclusion that emphasised the need for effective teacher training and its positive results in terms of teacher success in the early days of teaching:

although we expect most 1st year teachers will encounter some difficulties, there is emerging evidence that those prepared in powerful teacher preparation programs seem to manage the vicissitudes more adeptly than others. (p. 351)

Liston, Whitcomb and Borko (2006) carried out research with teachers during their early experiences of working in the profession and described their narratives as telling of “the challenges experienced as they come to understand the depth and texture of their students’ lives and their unique developmental needs” (p. 351), suggesting that it takes time for teachers to develop an understanding of the huge and complex task that constitutes catering for the diversity of students they will encounter. This challenge was recognised by McArdle (2010) who pointed out that “The complexities of the work of teaching are not easy to articulate, and good teachers make it look easy, to their students and onlookers” (p. 60). Cuenca (2010) also commented that “the practice of teacher education is a complex interaction between the ‘how,’ ‘what,’ and ‘why’ of teaching teachers” (p. 16), reinforcing the challenge of unpacking exactly what is involved in effective teacher training.

The development of teaching practice, however, is not something which should end at the time of qualification. Once teachers have completed their initial teacher training, professional learning takes over in terms of contributing to their development as a professional.

Smith, Blake, Kelly, Gray and McKie (2013) wrote of the concept of pedagogical process knowledge (PPK) versus that of pedagogical content knowledge (PCK). Their professional development aimed “not to contribute directly to understanding teacher
knowledge, but to support teachers in making their practice more inquiry-based” (p. 133). The rationale behind this was that working to make teachers more reflective practitioners would be assisted by providing them with tools rather than content or materials. “These tools would take the form of models, concepts and ways of thinking to help teachers reflect on their practice and empower them to make change themselves” (p. 134), rather than imposing change from above. Smith et al. (2013) reported that using these new ways of thinking led to better engagement of students through inquiry-based learning, despite the issues of a crowded curriculum.

Other researchers have also reinforced the importance of encouraging reflective practice and independence in teachers’ learning. Although the terms ‘professional development’ and ‘professional learning’ are often used interchangeably in schools, Berry and Loughran (2010) distinguished between the two, stating that in professional learning, “the assumption is that teachers have some commitment to the changes through driving, developing or refining them” (p. 136), which leads to discussion, reflection and experimentation. They reported success with professional learning “because change results from work with, as distinct from on, teachers” (p. 136). If as Verloop, Van Driel and Meijer (2001) suggested, such learning is voluntary, personal and “begins with the current knowledge and beliefs of the teachers” then the individual is more likely to be invested in its success. This fits Su and Reeve’s (2011) description, which emphasised that professional learning:

is in line with conceptions of autonomy emphasising perceptions that what one does … is self-authored, relates to one’s own interests and involves choice in actions. (p. 167)

As Berry and Loughran (2010) suggested, recognising a teacher as a “pedagogical decision maker within a specific context” (p. 2) is “a vital centrepiece to new understandings of professional development” (p. 2), emphasising the importance of teachers committing to pedagogical change by being included in decision making.

Berry and Loughran (2010) put it this way:

… professional learning involves the sharing of insights about teaching and learning between teachers in order to gain a sense of professional control and ownership over their learning, and concomitantly, a responsibility for the learning and teaching environment that they actively create in their classes … an
emphasis on professional learning is important for empowering teachers through valuing their voices and perspectives. (p. 3)

Smith, Blake, Kelly, Gray and McKie (2013) offered professional learning designed “to make teachers’ knowledge of how to support students’ learning processes more explicit” (p. 149). They aimed to “support teachers in making their practice more inquiry-based” (p. 133) and influenced change by helping teachers “reflect on their practice and empower them to make changes themselves” (p. 134), echoing the themes of autonomy and choice suggested by Su and Reeve (2011) and Berry and Loughran (2010). Smith et al (2013) reported successful results as teachers were able to “better engage their students in learning through inquiry, even in a crowded curriculum” (p. 135). They reported teachers “widened their repertoires of possible actions” (p. 146) as they developed new pedagogical processes for use in the classroom.

In terms of developing the skills of practising teachers, the Department of Education and Training, Victoria (2005), reported that “engaging teachers in high quality professional learning is the most successful way to improve teacher effectiveness” (p. 2). Facilitating effective professional learning that leads to classroom change is no easy matter, however, as implied by Speck et al.’s (2005) title *Why can’t we get it right? Professional development in schools*. Different models of professional learning and suggestions regarding the implementation of pedagogical change have been put forward by researchers. For example, The Department of Education and Early Childhood Development, Victoria (2010) reported that “Coaching is a highly effective form of professional learning” (p. 2) and explained that coaches are “primarily concerned with improving learning outcomes for all students” (p. 2). The Department suggested that their publication *Coaching Teachers in Effective Instruction* (2010) is of use because it “provides a means for coaches to self assess their own performance and to identify areas for growth” (p. 6) as well as enabling educators to “develop a shared language” (p. 6) to discuss coaching within and between schools.

Guskey (2002) put forward a model of change that claimed a different order of events from previous deficit models, suggesting that “significant change in teachers’ attitudes and beliefs occurs primarily after they gain evidence of improvements in student learning” (p. 383). The explanation underpinning this is “the experience of successful implementation that changes teachers’ attitudes and beliefs” (p. 383); practices which
help students make progress will be repeated and those which do not will not be continued. “Demonstrable results in terms of student learning outcomes are the key to the endurance of any change in instructional practice” (p. 384). This model, which suggests that evidence influences teachers’ beliefs, contrasts with the more intuitive idea that teachers may try an innovative practice because of a belief that it may improve student learning; that is, that beliefs influence practice.

With regard to developing teachers’ practice, Adey (2004) suggested that implementing changes in pedagogy demanded attention to a number of principles, including that “change cannot be imposed. Teachers must be brought into the process of change as partners” (p. 16). He also cautioned that “Change is slow, uncertain, and has many backward steps as well as forward ones” (p. 16), which may provide solace to educational leaders finding the pace of change frustrating.

The Department of Education and Training, Victoria (2005) suggested that improving schools “will require more than simply allocating additional resources for professional development programs” (p. 1) and published a report entitled Professional Learning in Effective Schools. The report illustrated what is needed for a professional learning programme to be effective, looking at practice “through the lens of effective leadership, learning communities, professional learning teams and the concept of a performance and development culture” (p. 2).

Stewart (2012) described how schools have successfully utilised the strategy of professional capacity building “based on the premise that top-down reforms do not achieve lasting change because they are not typically focused on the instructional core” (p. 50). She went on to suggest that lasting change also was hindered by reforms which “assume that teachers know how to do things that they don’t” (p. 51).

Much advice is available regarding the organisation of professional learning, yet an extensive search of the literature failed to reveal any specific models that specifically relate to the implementation of differentiation, arguably one of the most challenging pedagogical issues facing classroom teachers.
2.5 Conclusion

Differentiation is a pre-requisite for effective teaching in a mixed ability classroom, yet it is one of the aspects of instruction that teachers find most difficult to implement effectively. Monitoring teaching and learning in schools can be problematic if teachers see their classroom as their domain and a school has not developed a culture of opening up classrooms for lesson observations. The literature on leadership of change reveals that there are many ways in which educational leaders can influence instructional practice. The literature also suggests that in a school context, distributing leadership to staff other than the principal is both pragmatic and effective, provided the relevant staff have developed the necessary skills. Professional learning is a complex area in schools. As Smith et al (2013) conclude:

Supporting teachers in becoming expert practitioners is a challenge not only for educational researchers and teacher educators, but also for curriculum developers and educational policy makers. (p. 152)

The next chapter, Chapter 3, outlines the methodology employed in this research.
Chapter Three: Methodology and design

3.1 Introduction

The aims of this research were to investigate teachers’ beliefs about excellent pedagogy in their subject area, with a particular focus on differentiated instruction, and how these beliefs translated into classroom practice. The aim also was to investigate the extent to which a programme of professional development including group discussion, lesson observation and subsequent, individualised feedback had an impact on teachers’ classroom practice. The four research questions were outlined in Chapter 1.

This chapter presents the research methodology. It situates the research within the qualitative research paradigm and justifies the case study research design. A detailed description of the participants and the school in which the research was conducted is provided. Importantly for a qualitative study, the role of the researcher is discussed including the researcher’s theoretical framework, the issue of reflexivity, the researcher’s perspectives on mixed ability and streamed classes as well as the role of leadership in observation and feedback processes in the classroom. The following chapter, Chapter 4, outlines the procedures, methods of data collection and analysis.

3.2 The qualitative research paradigm

Guba (1990) suggested that research paradigms are characterised by the way in which they view reality (their ontology), the way they know things (epistemology) and the methods they use to research phenomena (methodology). The research reported in this thesis is based in the interpretivist or constructivist paradigm. Interpretivists seek to understand how contexts and meanings affect people; they value participants’ self-reported meanings and, as such, use methodological strategies such as interviews, observational methods and analysis of documents. Gephart (1999) claimed that:

Interpretive constructivism offers ways to understand members’ own meanings and theories of the world, a fundamental challenge for any scholarly inquiry seeking to have practical relevance. (p. 1)

The aims of this research, to investigate teachers’ beliefs about excellent pedagogy and the focus on classroom practice, clearly situate it within the interpretive, constructivist
paradigm. Interpretivists collect findings not in support of a hypothesis, but in order to develop a theory. Ultimately, judging the findings of interpretive research is done in terms of its transferability, credibility and trustworthiness.

Qualitative research is characterised as focusing on human interactions and interpretations, with the researcher playing a major role in the process. Rolfe (2006) noted two different ways to define qualitative research, one referring to the strategy of using data consisting of words as opposed to numbers and the other referring to the methodology’s grounding in interpretivism as opposed to the positivism of quantitative research. Merriam’s (2009) definition of qualitative research included an emphasis on the researcher being “the primary instrument of data collection and analysis” (p. 14) and described the product as “richly descriptive” (p. 14), in a phrase reminiscent of Geertz’s (1973) reference to ‘thick descriptions’. Cohen et al. (2011) explained that “many events are not reducible to simplistic interpretation hence ‘thick descriptions’ representing the complexity of situations are preferable to simplistic ones” (p. 17).

Qualitative researchers have an interest in understanding “how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences” (p. 5). Cohen et al. (2011) continued this emphasis on human experience and asserted that “the social world can only be understood from the standpoint of the individuals who are part of the ongoing action being investigated” (p. 15). For Merriam (2009), qualitative research aims “to understand how people make sense of their lives and their worlds” (p. 24) and researchers choose qualitative designs because they “are interested in insight, discovery, and interpretation rather than hypothesis testing” (p. 42).

Reeves (2006) described his experiences as a statistics professor, and the occasion when:

I was forced to acknowledge that perhaps the most important lesson I imparted to my students was that not everything that counts can be counted, nor everything that can be observed can be expressed in quantitative terms. (p. 14)

He explained that there are times when:
... only a narrative analysis will explain why some students and teachers defy the odds and perform at an exceptionally high level despite the prevalence of poverty, special education, second languages, or other factors that in statistical terms are associated with low student achievement. (p. 14)

He outlined the different emphasis put on the situation by the different approaches – “an analytical model would call these extraordinary students and teachers ‘outliers’, while an inclusive leadership model would inquire what we can learn from them” (p. 14).

The qualitative approach is not, however, without its critics. Cohen et al. (2011) posed the question “Are there not dangers in rejecting the approach of physics in favour of methods more akin to literature, biography and journalism?” (p. 21), suggesting that issues of generalisability can result when post-positivists reject entirely the scientific method.

Disadvantages of a qualitative research design also include the potential biases that can result from an approach which has a human being as the primary instrument of data collection and analysis. Cohen et al. (2011) pointed out that “the power of others to impose their own definitions of situations upon participants” should not be underestimated” (p. 21), using “Doctors’ consulting rooms and headteachers’ studies” as examples of “locations in which inequalities of power are regularly imposed upon unequal participants” (p. 21).

Other authors reject the necessity to deliberate over whether methodologies are qualitative or quantitative, preferring a pragmatic approach, defined by Denscombe (2008) as “essentially practical rather than idealistic; it is practice-driven” (p. 280). Similarly, Suter (2005) recommended whatever combination of approaches improved the research quality and Chatterji (2004) suggested that the use of different methods was a requirement of effective research. Feilzer (2010) asserted that “rather than engaging in the self-absorbed debate over qualitative or quantitative affiliations” (p. 14), the approach of pragmatism:

... gets straight down to the business of judging research by whether it has enabled the researcher to find out what he or she wants to know, regardless of whether the data and methodologies are quantitative or qualitative. (p. 14)
In terms of qualitative research designs, the lack of statistical evidence also could be an issue for quantitative thinkers. However, if prediction, control and the testing of hypotheses are not the primary aim of a research project, then a lack of statistical evidence is not such a problem. If, as in this research, a researcher is more interested in people’s experiences and how those experiences can be interpreted, then a qualitative approach is an appropriate methodology.

Many pointers suggest the suitability of choosing qualitative research for the study reported in this thesis. Simons (2009) drew a parallel between the qualitative methods of observing, interviewing and documentary analysis and the skills teachers use when they observe, listen, question and make sense of documents. In this sense, he saw qualitative research as a natural extension of the work of a teacher, which supports an argument for the importance of qualitative methods for this study. Qualitative research also is suitable for a study that aims to explore in detail the views of teachers and whether observations and subsequent feedback can effect a change in their classroom practice (Simons, 2009).

Merriam (2009) described one characteristic of all forms of qualitative research, that “the researcher is the primary instrument for data collection and analysis” (p. 15). This particular study revolves around the researcher becoming closely involved in the professional learning of a small group of colleagues and is consistent with Merriam’s description of a qualitative researcher “spending a substantial amount of time in the natural setting (the ‘field’) of the study, often in intense contact with participants”. The advantages she stated included the qualitative researcher being able to expand understanding:

… through nonverbal as well as verbal communication, process information (data) immediately, clarify and summarize material, check with respondents for accuracy of interpretation and explore unusual or unanticipated responses. (p. 15)

These strategies have been used to guide the selection and development of methods for this research project.
3.3 Case study – research design

Case studies are disciplined, qualitative forms of inquiry. Simons (2009) defined a case study as:

an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, programme or system in a ‘real life’ context. (p. 21)

Merriam (2009) simplified the definition, suggesting that a case study is “an in-depth description and analysis of a bounded system” (p. 40) and explaining the need to clearly define the unit of analysis. Cresswell (2003) defined case study research as “a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information … and reports a case description and case-based themes” (p. 73). Yin (2009) suggested that a case study is “an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (p. 18). What these definitions share, is an emphasis on studying a complex issue in detail in its real life context. The research reported in this thesis takes place entirely in the real-life context of a large school, which points to the case study as an ideal method of enquiry.

The single-case design chosen for this research was based on Yin’s (2009) rationale that it is a suitable design “where the case represents a unique case” (p. 47, emphasis added). In the research reported in this thesis, the unique case was a programme of professional development within one school in Western Australia designed and implemented by the school’s Director of Pedagogy, who was the researcher, too. The programme of professional development included an analysis of current pedagogy in the school, as well as teachers’ views of excellent pedagogy. Further, the programme of professional learning involved the analysis of experiences of a group of eight teachers exploring the implementation and improvement of differentiation in their classrooms. The professional development programme is consistent with Adelman et al.’s (1983) definition of a ‘bounded system’ as “those in which the boundaries have a common sense of obviousness, eg an individual teacher, a single school, or perhaps an innovatory programme” (p.3). While the programme of professional development was
the bounded case study, individual teachers who participated in Phase 2 formed embedded units of analysis (embedded case studies). Yin (2009) pointed out that such embedded sub-units “often add significant opportunities for extensive analysis, enhancing the insights into the single case” (p. 52). The unique role of the Director of Pedagogy provided the opportunity for detailed classroom observations, feedback and other professional development work with teaching colleagues. The exploratory nature of this research, which had not previously been carried out by others, also pointed to the case study as an appropriate methodology.

Bogdan and Biklen (2007) suggested that:

An observational case study is one in which the major data gathering technique is participant observation (supplemented with formal and informal interviews and review of documents) and the focus of the study is on a particular organization (school, rehabilitation center) or some aspect of the organization. (p. 60)

Although it has its critics, Shields (2007) put forward a strong argument for qualitative research methods within a case study design, arguing that:

… the strength of qualitative approaches is that they account for and include difference – ideologically, epistemologically, methodologically – and most importantly, humanly. They do not attempt to eliminate what cannot be discounted. They do not attempt to simplify what cannot be simplified. Thus, it is precisely because case study includes paradoxes and acknowledges that there are no simple answers, that it can and should qualify as the gold standard. (p. 130)

Yin (2009) claimed that case studies are advantageous when answering ‘how’ and ‘why’ questions or “if the variables are so embedded in the situation as to be impossible to identify ahead of time” (p. 46). Simons (2009) suggested that case studies can “explain how and why things happened” (p. 23) and emphasised their usefulness when exploring and understanding the process and dynamics of change. A case study can “determine the factors that were critical in the implementation of a programme or policy and analyse patterns and links between them” (p. 23). Merriam’s (2009) mention of case studies being ‘particularistic’ is described as meaning that “case studies focus on a particular situation, event, program or phenomenon” and it is said that “this specificity of focus makes it an especially good design for practical problems – for questions, situations, or puzzling occurrences arising from everyday practice”. The idea of writing
case study reports in accessible language, allowing readers to vicariously experience the observations and interviews carried out was considered to have obvious advantages if other teachers and educators were to benefit from the practical knowledge gained in this study.

A strong justification of the case study as a suitable method for this research which aims to study the complexities of a real life school and inform future policy comes from Merriam (2009):

> The case study offers a means of investigating complex social units consisting of multiple variables of potential importance in understanding the phenomenon. Anchored in real-life situations, the case study results in a rich and holistic account of a phenomenon. It offers insights and illuminates meanings that expand its readers’ experiences … Case study has proven particularly useful for studying educational innovations, evaluating programs, and informing policy. (p. 51)

The procedure used within the case study, including details of the methods of data collection and analysis is outlined in detail in the following chapter, Chapter 4. The next section describes the school in which the research took place.

### 3.4 Setting

This qualitative research involved an opportunistic case study within one school where the researcher was employed as Director of Pedagogy. The school is a high fee paying independent Anglican boys’ school situated within the metropolitan area of Perth, Western Australia and a member of the Association of Independent Schools of Western Australia (AISWA). The school employs approximately 150 full-time equivalent teachers and educates approximately 1500 boys from pre-primary to Year 12 and has adopted as its mission the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 1996) statement ‘to know, to do, to live with others and to be’. The school’s pastoral care system involves each boy being looked after by a tutor within a house system, designed to give each student a feeling of security and belonging within the school.
The school’s preparatory campus is for boys from pre-primary to Year 6 inclusive and a senior school campus is for boys from Year 7 to Year 12 inclusive. The school educates a total of approximately 1500 students, with a Year 7 intake of approximately 180 boys into the first year of senior school. The day boys attending the school come from a number of western suburbs of Perth and the student attendance rate is 96 percent. The school’s residential community hosts 110 boarders from regional Western Australia, interstate and overseas. One percent of the school’s students are indigenous and 21 percent have a language background other than English. Fees were set at $18,950 per annum in 2010 and the school’s ICSEA value is 1190, as compared to an Australian average of 1000 (SD = 100) (ACARA, 2013). The Index of Community Socio-educational Advantage (ICSEA) is a measurement created by the Australian Curriculum, Assessment and Reporting Authority (ACARA) to enable valid comparisons of National Assessment Program—Literacy and Numeracy (NAPLAN) test achievement by students in schools across the country. In the case of the school reported in this research, it reflects the relatively affluent community from which the students are drawn.

The school is led by an executive team consisting of a principal and two heads of school (one for the senior school and one for the preparatory school) who work with directors of study, staff development and strategic planning, co-curricular activities and finance to run the school. Each subject area is led and managed by a head of department and each pastoral care team is led by a head of house, who facilitates the work of approximately eight tutors.

At the time the research was conducted, the school’s curriculum was based on outcomes detailed in the Western Australia Curriculum Framework (Curriculum Council, 1998). Boys studied in learning areas based around the arts, English, mathematics, science, languages, technology and enterprise, humanities, health and physical education. As well as the compulsory curriculum studied by all students, boys could opt to study any of four languages in Years 7 and 8 (Japanese, French, German or Chinese) and in Year 9 they have a choice of electives in languages, arts, technology and enterprise, science, mathematics and English. Year 10 students continue to study the core subjects of English, mathematics, humanities, science, health and physical education as well as two electives. All Year 7 to 10 students also participate in the school’s integrated
programme, which includes units of work on information and communication technology skills, metacognition and study skills, careers education, philosophy, ethics and religion (school website, 2011).

The school day consists of a tutorial period from 8:30 to 8:50 am, followed by periods one and two which end in a 20 minute recess from 10:40 to 11am. Periods three and four are followed by a short lunch break between 12:45 and 1:25 pm and the last two periods of the day end at 3:05 pm.

In terms of students and their results at the end of their secondary education, the research school is considered an academically elite institution. For example in 2010, 192 of the 193 Year 12 students were awarded the Western Australian Senior Secondary Certificate of Education (WACE). As well as this measure of graduation, significant numbers of the school’s 2010 Year 12 students were successful in academic awards given by the Curriculum Council of Western Australia. Boys from the school were awarded five general exhibitions, three course exhibitions, one certificate of distinction and 23 certificates of excellence by the Curriculum Council of Western Australia. The school also is regularly ranked within the top boys’ schools in the state, based on Year 12 tertiary entrance results.

Despite this academic status and public perceptions of academically able students, however, the case study school describes its diversity as one of its strengths:

As an academically inclusive school, we accept boys of all abilities – from those who are academically gifted through to students with learning challenges. (School website, 2013)

The school’s entry policy is non-selective in terms of its intake; boys are accepted into the school regardless of their academic ability. This leads to a somewhat bimodal distribution, as the school attracts the brightest of students whose parents learn of its academic reputation, as well as attracting those with learning difficulties due to its reputation for catering for whatever learning needs a student brings with them.

Like all Australian schools, the research school’s results on the national literacy and numeracy ‘NAPLAN’ tests (National Assessment Program – Literacy and Numeracy) are publicly available and published on the Australian Curriculum, Assessment and
Reporting Authority (ACARA) MySchool website. Figure 2 summarises the school’s 2010 NAPLAN results for Years 3, 5, 7 and 9 from the ACARA website (www.acara.edu.au).

Figure 2. Summary of the research school’s 2010 NAPLAN results.

The NAPLAN results show the diverse nature of the boys that reflects the academically non-selective admissions policy. The fact that the school educates such a diversity of students in terms of their academic ability means that on any day, a class may include students who are gifted in that subject area sitting alongside those who struggle significantly with their learning. The school has a number of strategies in place to support teachers in their teaching of students of such varied abilities. "The less able students who are judged to have learning difficulties are grouped into a ‘support class’ of approximately 12 other students for their lessons in the four core subject areas (larger numbers of students make this possible in these subjects). The aim of this process is to
help teachers cater for the diversity of students in their classes by reducing the range of ability within each class. It also allows the most academically able boys to be extended and given opportunities to challenge themselves within the top set, and ensures that those who need to learn at a slower pace in the support classes can do so without slowing the learning rate of others.

Although this process of ‘topping and tailing’ does help reduce the ability range within any one classroom, there is still a very wide range of achievement levels within many of the classrooms in the school. In Year 7, for example, all classes are taught within mixed ability groupings and in Years 11 and 12 there are no top sets or support classes. The academic reputation of the school means that there are significant numbers of very academically able boys, which in turn, means that many of those boys who are not placed in a top set are nevertheless high achievers and will inevitably share classes with peers of a wide ability range.

Despite the creation of some top sets and support classes, this hybrid model of ability grouping means that a diverse ability range of students is evident in many classrooms within the school. This phenomenon led to the research questions aiming to investigate teachers’ beliefs and practices regarding differentiation in the classroom. The research questions also aimed to investigate strategies leaders can use to ensure teachers’ pedagogical practice caters appropriately for the different abilities of students in their classrooms.

3.5 Participants

The participants in the research were secondary school teachers working in the case study school. The first phase of the research involved observing 174 lessons clustered into subject areas or departments. The second phase of the research involved eight teachers from different academic departments who opted to join a small group interested in exploring differentiation in the classroom. More detailed information about the two phases of the research is provided in the next chapter, Chapter 4. In the next section, the role of the researcher within the school is described.
3.6 Role of the Researcher

As explained above, this research took the form of a case study conducted in the school in which the researcher was employed as Director of Pedagogy. The aims of the research were developed to articulate with and inform the roles and responsibilities of the Director of Pedagogy.

The creation of the new role of Director of Pedagogy within the school was based on the premise that instructional leadership is an important facet of teachers’ professional development. Executive or senior members of school management teams do not always have the time or experience to become instructional leaders who directly influence classroom practices. One effective way of ensuring that practising teachers receive the feedback that is so important for the development of an effective learning community is to delegate this task to a specific person within the school, in this case to the Director of Pedagogy.

The researcher’s previous role as head of science within the senior school led to an understanding of the teaching practice within that subject area and extending that understanding to other areas was proposed by investigating excellent teaching, particularly with regard to differentiation, within the other departments.

This unique role of the researcher in this study as the Director of Pedagogy in the case study school, allowed an opportunity for the research to take place. It is important to emphasise that the Director of Pedagogy played no part in performance management, evaluation or appraisal of teachers within the school and was concerned entirely with professional learning and support of teaching colleagues. This was made clear to all teaching staff and regularly emphasised by senior managers at the school. An extract from the Director of Pedagogy’s job description is shown in Figure 3.
**Key tasks for the Director of Pedagogy**

*Providing Pedagogical Leadership*

The Director of Pedagogy's role is

- to provide leadership in school-wide professional learning and development regarding pedagogy.

*Supporting Teaching Staff*

The Director of Pedagogy's role is

- to work with all colleagues through teaching observation to provide objective, impartial feedback on classroom performance and pedagogy;

- to work with teachers keen to develop their classroom skills, for example in differentiating the curriculum to cater for the needs of high and low ability students within a mixed ability class, or in managing the behaviour of reluctant learners;

*Supporting heads of department in their work*

The Director of Pedagogy's role is

- to work with the Director of Learning Development to help departments and individual teachers develop strategies that differentiate teaching for boys of all abilities;

- to support heads of department in developing classroom observation skills;

- to assist heads of department to work with newly-qualified teachers to ensure their continued development as reflective practitioners by, for example, observing and reinforcing their good teaching, helping them arrange to observe appropriate colleagues' lessons and being available to discuss teaching strategies and behaviour management.

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*Figure 3.* An extract from the Director of Pedagogy’s job description.

As Figure 3 illustrates, the role was a wide-ranging one, covering as it did the professional development of both new and experienced staff and the leadership of pedagogical practices within the school.
Blase and Blase (1998) investigated strategies to influence classroom teaching, including instructional conferences. The strategies that they suggested were instrumental included making suggestions, giving feedback and soliciting advice and opinions. They asserted that it is imperative for leaders to realise that teachers rarely add to their repertoire of teaching skills without support and assistance and that the assumption that most teachers can analyse their own practice and act on their self-analysis to improve their pedagogy is flawed. Through the research questions, this study explored these ideas regarding instructional leadership and investigated their effects on senior school teachers.

3.6.1 Identifying the theoretical framework

Merriam (2009) pointed out some of the pitfalls of qualitative case studies, including the fact that they are limited “by the sensitivity and integrity of the investigator” (p. 52). The section that follows outlines my experiences in education and gives consideration to the impact those experiences may have had on this research. I have moved to using the first person to clearly convey the personal perspective that is being communicated in this section. My views on differentiation in the classroom and my experiences both of being observed and of observing others’ classroom practice have inevitably shaped the way I have worked with and investigated these issues. In an attempt to make my inherent biases and prejudices transparent to the reader, I describe below my journey both as a classroom teacher and an educational leader.

3.6.2 Reflexivity

Finlay (2002) described “Reflexivity in qualitative research” as a process in which “researchers engage in explicit self aware meta-analysis” (p. 209). As she documented historical changes in qualitative research practices, she pointed out that, contrary to the way in which researchers were seen in the past, we now “accept that the researcher is a central figure who influences, if not actively constructs, the collection, selection and interpretation of data” (p. 209). Finlay argued that although the biases of the researcher were previously seen as disadvantageous, “We no longer seek to eradicate the researcher’s presence – instead subjectivity in research is transformed from a problem
to an opportunity” (p. 212). Finlay concluded that “In short, researchers no longer question the need for reflexivity: the question is how to do it” (p. 212).

May (2001) described the need for researchers to consider “the practice of research, our place within it and the construction of our fields of inquiry themselves” (p. 44). This draws a parallel with Greenbank’s (2003) assertion that:

> Users of both quantitative and qualitative methods all need to recognize the influence of values on the research process … The inclusion of reflexive accounts and the acknowledgement that educational research cannot be value-free should be included in all forms of research … researchers who do not include a reflexive account should be criticized. (p. 798)

It is clearly necessary for a researcher to think about their own position in relation to their research. Many aspects of someone’s experiences could be relevant, for example, their age, gender, political and religious views, their family structure, their experiences of education and of life in general as well as their professional beliefs as an educator. It would be naïve to suggest that a researcher could propose questions for investigation, collect data or analyse results without bringing to that work a rich diversity of prior experiences and it is, therefore, important for each researcher to outline what they perceive as their own theoretical framework.

A theoretical framework is effectively the background ideas with which a researcher is already armed when they approach their work. Wolcott (2005) emphasised the “need for every researcher to be able to place his or her work within some broader context” (p. 180) and Merriam (2009) pointed out the inevitability of any data a researcher collects being influenced by his or her theoretical framework. Merriam suggested identifying one’s theoretical framework by asking “… what is your disciplinary orientation?” (p. 66) and emphasized the importance of recognising the fact that “We have all been socialized into a discipline with its own vocabulary, concepts and theories” since “this disciplinary orientation is the lens through which you view the world” (p. 67). Similarly, Anfara and Mertz (2006) claimed that “every aspect of the qualitative research process – from the questions asked to the analysis of the data – is affected by the theoretical framework” (p. 193).
In addition, McIlveen (2008) described autoethnography as a strategy which can be used to “establish trustworthiness and authenticity” (p. 13). He advocated the use of autoethnography which he described as:

… a reflexive means by which the researcher-practitioner consciously embeds himself or herself amidst theory and practice, and by way of intimate autobiographic account, explicates a phenomenon under investigation or intervention. (p. 13)

Highlighting the thought that one’s disciplinary orientation will inevitably affect one’s judgement in this context were Cogan’s (1973) comments on effective supervision of teachers and his concern that:

Too often the operating model of the teacher-turned-supervisor is pretty much what he himself does well. When teachers become supervisors, these personal preferences generally operate in full vigor, furnishing many of the criteria for viewing the teaching of others. (p. 54)

In this section I outline my background and training, to make the reader aware of the thinking that is likely to have affected this research. In terms of training, my disciplinary orientation is that of a scientist. I read for a Bachelor of Science degree in Zoology and Psychology at Cardiff University in Wales, and followed this with an initial teacher training year (a Post Graduate Certificate in Education) in Biology and Integrated Science in Bristol, England in 1991. The lens through which scientists view the world is traditionally a hypothetico-deductive one and it is from this perspective that I first started considering the research process. In terms of personal life experiences that have affected my views on education and differentiation, I have encountered the education systems of three different countries both as a teacher and as a parent of two children.

The remainder of this chapter will describe my experiences as they relate to two major aspects of the research – those that have affected my views on differentiation of teaching and learning in the classroom and those experiences that have shaped my beliefs and practices regarding observing colleagues’ teaching and providing feedback to them.
3.6.3 Mixed ability versus streaming

The first two years of my teaching career involved teaching in a school in England where all students were placed in classes which were deliberately engineered to include students from the full range of academic ability.

This was towards the end of a time in England when streaming, setting and any other form of arranging students into ability groupings were considered politically unacceptable. Having mixed ability classes was thought to be advantageous because it avoided labelling less able students by placing them in a certain ‘stream’ or ‘set’ which might have led to feelings of inferiority. Mixing up more and less academic students was said to help preserve their self-esteem. Proponents of the mixed ability model also argued that less able students would be inspired to learn from their more able peers if they were working in class together, on differentiated learning tasks that teachers had planned to cater for the different abilities of students. In reality, teachers struggled to plan lessons that catered for varying abilities of student and tended to ‘teach to the middle’ of the class, resulting in bright students feeling frustrated and bored by the slow pace of learning and the least able finding it impossible to keep up with the rest of the class.

Participating in mixed ability teaching revealed to me that there were issues involved when less able students work in close proximity with gifted learners. Often, the less able students realised that they were significantly far behind their peers in terms of their learning, which further reduced their self-efficacy rather than inspiring them to try harder. Anecdotal evidence showed that those advocates of a system based more on grouping students according to academic ability believed that some type of streaming or setting would in reality allow teachers to more easily plan teaching experiences that cater for a narrower range of students within their classrooms.

Inspections by OFSTED (Office of Standards in Education) staff in the 1990’s in England included the expectation that every teacher could describe and explain how they had catered for all the learners in a classroom. Indeed a lesson was deemed ‘unsatisfactory’ if it were felt that any student or group of students had not been appropriately catered for. Lesson plans were expected to include different routes
through a lesson for the less able and the gifted and teachers were expected to plan to meet the needs of all the students in each class, including those with individual education plans. This high level of expectation was standard and therefore not something that I considered in any way surprising at that time.

In retrospect, the differentiation that was expected of teachers in England is by any definition an onerous task. Juggling the needs of the most able with the support required by the least able at the same time as catering for the majority of the class who fall somewhere between those two categories of learners is challenging for the best of teachers.

A report by the State of New South Wales Department of Education and Training (2004) described what is meant by differentiation, saying that it “is evident at the classroom level when appropriate challenges are available for all students”. It explained that:

Curriculum can be adapted in content, process and product to provide developmentally appropriate opportunities. The evaluation of curriculum materials for suitability is a complex task. It requires an understanding of the relationships between curriculum, instruction and assessment. (p. 8)

Also reinforcing the complexity of the differentiation that is expected of teachers of mixed ability classes are the comments made by various researchers writing about the very different learning needs of gifted students. Van Tassel-Baska (2003) pointed out that the needs of gifted students “encompass cognitive, affective, social, and aesthetic areas of curriculum experiences” (p. 178). She described gifted students as “best served by a curriculum that incorporates both accelerated and enriched learning” and informed teachers that “Curriculum experiences for gifted learners need to be thoughtfully planned, written down and incorporate explicit assessment” (p. 178). This applies just to the gifted students in a classroom and does not take into account the very different needs of the low ability students who may be learning alongside the gifted within a mixed ability classroom. School leaders have to consider whether all their teachers have the skills, ability, experience and time to plan the necessary, worthwhile learning experiences that will cater for all their students in every lesson.
A support package on curriculum differentiation aiming to help teachers provide for gifted and talented students (State of NSW Department of Education and Training, 2004) suggested that teachers consider six questions when evaluating a programme for gifted learners. The sheer complexity and number of questions they propose reflects just how difficult catering for gifted learners can be, and this is presumably picturing them in a gifted and talented context, rather than a mixed ability classroom. For example, one question alone asked whether assignments have been planned to cater for the abilities of all students in the class and includes seven sub-questions asking about whether the assignments “require all students to use key concepts, generalisations, ideas, problem-solving skills to create meaningful products” (p. 50), whether they include “clearly delineated and appropriately challenging expectations” and whether they “plan for the final product to be evaluated by teacher, students, peers and a real audience based on evaluation criteria” (p. 50). The thought of facilitating these requirements in a mixed ability classroom is enough to overwhelm the most dedicated and hard-working of teachers.

Writing about barriers to the implementation of differentiation, Hawkins (2009) commented that “Even special and gifted educators, who may be knowledgeable about students multiple exceptionailities, fail to use differentiation to maximize optimal learning” (p. 12). Gibson (2010) also highlighted the great range of ability and readiness to learn that teachers face in their classrooms every day:

… expecting classroom teachers to provide high-quality instruction to students is not a new concept ….. what is new for classroom teachers, however, is the increasing student variance within general education classrooms, often coupled with diverse language and behavioral challenges. (p. 2)

Work has been carried out to support teachers in their attempts to differentiate appropriately for their students. Tomlinson and McTighe (2006), for example, took a pragmatic approach and seemed to understand that planning for individual students is not realistic in the life of a classroom teacher. They reassured teachers that “Differentiation does not advocate ‘individualization’” and recognised that:

It is overwhelming to think that it might be the teacher’s job to understand fully the needs of every single student, including those from a wide range of cultural and language groups, who struggle to read or write … who are advanced in performance,
who come to us from oppressive home settings, and so on. (p. 19)

Tomlinson and McTighe (2006) went on to suggest a number of ways of planning instruction that help to effectively serve the needs of the various learners in a classroom.

It cannot be denied that most teachers want to maximise student learning, nor that it should be their responsibility to plan lessons which take account of different learners’ abilities and preferred ways of learning; but it is difficult to see how one teacher differentiating for students organised into mixed ability classrooms can be expected to cater effectively for all students at such varied stages of achievement in their education.

These challenges of planning and the time constraints on teachers have resulted in many English comprehensive schools deciding that some form of streaming is desirable; that is, putting students in some subjects into achievement groupings. Rogers (2006), however, claimed that merely grouping students of a similar achievement level together is not enough and made the following observation:

Substantial gains in learning can be made when gifted students are grouped together … but this can be achieved only if they have access to a developmentally appropriate curriculum. (p. 11)

In more recent years, having two children of my own has contributed to my outlook on educational practices. Many years of seeing the work that they carried out in school and knowing how inappropriate that work was for their age, stage in education and ability merely served to strengthen my view that catering for different learners in the classroom is on the one hand a very important part of a teacher’s remit and on the other, an aspect of the role that is very difficult to carry out effectively.

These experiences, both professional and personal, have led to my current belief that streaming by ability is preferable to mixed ability teaching. It is my view that there are too few teachers who have both the time, experience and the skills necessary to differentiate their teaching to such an extent that they can effectively cater for the myriad needs of the students in their classes and I therefore consider streaming in core subject areas desirable.
In reality, even if students are streamed by ability, each classroom with more than one student in it, by definition, has students of different ability and therefore some form of differentiation will help those children learn. Reducing the range of abilities does, however, make it easier for the teacher to target the overall level of work appropriately. It is difficult to see how a teacher could cater for a low achieving, non-reader and a highly literate, gifted and talented child in the same class, for example, unless they are completing entirely different tasks.

3.6.4 Leadership – observation and feedback

As well as outlining how my professional experiences in schools have contributed to my beliefs regarding differentiation and setting, it is important that I describe how I have developed a personal understanding of the importance of adhering to appropriate and effective procedures when observing colleagues teach and giving them constructive feedback on their practice.

Teaching science and biology for eight years in a large, rural high school in Norfolk in England involved my first forays into leadership. As the head of biology, my role involved leading and managing a small group of teachers and ensuring that their classroom practices fitted the needs of the students. Working together to develop schemes of work entailed in-depth discussions about how we taught various topics and revealed to me the very different ways in which teaching colleagues effectively carried out their work and the personal nature of the work of a classroom teacher. My job included running subject meetings and supporting colleagues in their teaching, mainly by modelling the production and use of good quality teaching resources.

I learnt that providing teachers in my department with excellent teaching materials and resources was not enough; a worksheet or activity which I had used effectively in the classroom could still lead to a disastrous lesson in the hands of an inept colleague. Over time, I worked to improve teaching in the department mainly through the process of collaboratively planning programmes of learning. Rich professional discussions took place on in-service training days devoted to writing these programmes and gave participating teachers the opportunity to share pedagogical practices and talk about what went on in their classrooms. It was these experiences of trying to influence practice and
effect change in colleagues’ teaching that initiated my thoughts about what constituted good practice and how leaders try to change others’ behaviour.

The views I developed during this period as head of biology correlate with recent New Zealand research regarding which professional development activities are subsequently translated into changed classroom practice. Timperley et al. (2007) reviewed professional development and learning undertaken by New Zealand teachers and consolidated evidence regarding the promotion of teacher learning “in ways that impact on outcomes for the diversity of students in our classrooms” (p. 13). Their synthesis of studies on teachers’ professional development showed that sharing ideas and challenges in the form of learning communities led to changes in practice in classrooms. They also were able to examine “where teachers’ professional learning and development did and did not lead to improved outcomes for students” (p. 15), which must surely be the aim of all teacher professional development.

At the Norfolk school in which I worked, it was the role of the head of department to carry out formal lesson observations of all teachers within the department and I was, therefore, at the receiving end of regular observations and feedback from the head of science. Members of the senior management team (the headteacher and deputy heads) also regularly ‘dropped into’ classrooms to monitor what was going on, and although they rarely became involved in a formal feedback process afterwards, when they next saw a teacher, they would generally comment in passing on what they had observed. When it came to the biennial appraisal, teachers were allowed to choose a second observer, sometimes from a different subject area, who would contribute to the professional discussion by observing a series of two or three lessons and giving feedback both to the teacher and to their head of department.

In recent years I have reflected on this arrangement of regular, formal feedback in comparison to later experiences in the education systems of other countries and concluded that effective observation and feedback is indeed one way of influencing classroom practice. Done skilfully, it can leave teachers feeling validated and noticed as well as providing suggestions to improve their practice. I certainly have vivid recollections of observations of my own teaching that provided feedback which sustained me at times when I needed professional validation; and I know that I always
considered carefully and usually acted on suggestions provided by my head of department.

Although much of the literature refers to lesson observation and feedback in the context of performance appraisals, the exploration of observing teaching and learning is relevant to this research, albeit in a different context. Meiers and Buckley (2009) pointed out that feedback “provides teachers with the opportunity to exercise reflective practices and gain a better understanding of their own teaching beliefs and behaviours” (p. 7). Hattie and Timperley (2007) reported the higher levels of confidence and investment of increased effort following feedback to teachers and this certainly mirrors my experience. Jensen and Reichl (2011) confirmed that meaningful feedback to teachers has the greatest impact on their work providing, as it does, “immediate and, if implemented correctly, highly valuable feedback” (p. 23).

The OFSTED inspection regime under which I worked was supplemented by the school’s own appraisal system, which entailed a teacher’s head of department and another colleague of the appraisee’s choice observing teaching and providing constructive feedback and suggestions for improvement. Teachers were used to this system and I recall no complaints about its validity or usefulness.

During my last two years’ teaching at the high school in Norfolk, I was seconded for two days a week to the University of East Anglia, where I lectured in the education faculty and ran a tutorial group for post graduate science students completing their initial teacher training (ITT). Part of the role involved visiting various high schools to observe my students on their teaching practicum. This was my first experience of watching a teacher and commenting formally on their teaching. I recall asking a wise, experienced colleague at the University how I would know what to look for and what to say after the lesson and being reassured by their comment that “It will be obvious. You will know what to say.” In a sense he was correct, as the effective parts of a lesson are obvious to an experienced teacher, as are those parts that are less pedagogically successful. The more challenging part of the process is in ensuring that the feedback given is realistic, honest and constructive and leads to the desired changes.
In retrospect, it is difficult to remember the actual process of learning how to give feedback to student teachers; I certainly did not read the relevant literature (at this time I was not aware that it actually existed) and I learnt through experience, personal reflection and discussion with professional colleagues. In those days, notes on lesson observations were hand written on carbon paper that resulted in three copies of the same notes, a blue one for the student teacher, a green copy for their mentor at the host school and a yellow copy for me. I re-read and reflected on those yellow copies at home each night, carefully thinking back to the lesson, the debrief, and what I felt had been successful or not constructive in the subsequent discussion.

I worked out that being too positive served little function because the student teacher rarely believed they deserved such praise. I also noticed that giving an overall rating too early in the feedback process (whether that be a good rating or a bad rating) meant that sometimes the teacher visibly ‘switched off’ and paid scant attention to the rest of the debriefing session. This meant that they missed out on what I felt was valuable feedback aiming to improve their teaching.

Sartain et al. (2011) described their work investigating teacher evaluation in Chicago as motivated by evaluation systems which were “failing to give teachers either meaningful feedback on their instructional practices or guidance about what is expected of them in the classroom” and “not differentiating among the best teachers, good teachers, and poor teachers” (p. 1). Presumably educators in a system which “identified 93 percent of teachers as either Superior or Excellent” (p. 1) when “66 percent of schools were failing to meet state standards” were well aware of the lack of meaning in the evaluation process and this was reflected in their views of the system as “arbitrary and unfair” (p. 1).

Continuing to work with new teachers, I discovered that starting a feedback session by ascertaining the teacher’s own view of the lesson they had just taught was essential. Asking the observed teacher how they felt the lesson had proceeded meant avoiding making comments that conflicted with their own view of what had taken place and also provided the time and opportunity for the teacher to reflect on their own practice, which was often a valuable professional learning experience.
Furlong and Maynard (1995) put forward five stages of learning that apply to new teachers, from early idealism through personal survival, dealing with difficulties, hitting a plateau and moving on, to understand the role and responsibility of being a professional educator. Marzano et al. (2011) detailed the history of supervision and evaluation of teachers and described the model of Goldhammer (1969), based on hundreds of classroom observations and post-observation conferences. The five phase process of clinical supervision he developed was “designed to involve teachers and supervisors in a reflective dialogue” (p. 18). The intent was to support teachers “in developing evaluations of their own teaching” (p. 63) and ask them to “reflect upon and explain his or her professional practice” (p. 70), something that I was very keen to do.

As head of science in my first all boys’ school in New Zealand, teaching again involved classes of students who were not sorted by achievement level. The school in which I taught had a policy of ensuring that teachers new to the school were observed teaching in their first term by the headmaster, followed by a subsequent visit each term by the next person down in the hierarchy (deputy head, head of department, etc). Feedback was brief but constructive and the observers generally handed over a page of handwritten notes that they had made during the lesson. Again, regular observations were seen as quite normal and teachers who were not new to the school were observed annually by a member of the senior management team or their head of department.

The contrast in expectations in terms of formal visits to classrooms was marked when I started a year’s maternity cover, teaching at an independent school in Western Australia. Three months into the job, I expressed surprise that no school leaders had visited my lessons to observe my teaching and provide feedback. The head of department explained that there had been no complaints about my teaching and asked whether I was experiencing classroom issues that necessitated a visit. Apparently the approach taken was that visits would be made when necessary and this would generally occur only if parental complaints were received about a specific teacher. The lack of complaints about my classroom practices was sufficient evidence that I was competent. I reflected at length on the fact that this meant that I would not receive any constructive feedback on my teaching practice and wondered both how the leaders at the school knew what was going on in classrooms and also how they hoped to influence my classroom practice to ensure it was aligned with their strategic plans for the school. The
situation of teacher evaluation described by Hafaele (1992) resonated with my experience; “Clearly, teacher evaluation, as presently practiced, is beset with serious problems and a lack of tenable solutions” (p. 335).

A year later, as head of science myself at a different Western Australian school, I reverted to the model with which I had previously been most comfortable. I assumed that observing teaching was the only way I could make valid comments on the performance of the teachers in my department. How else could I carry out the annual review which I was expected to complete with each member of staff, and manage their performance in a formative, constructive way? The very idea of classroom visits, observation and feedback was, however, surprising to some and threatening to others. Opening classroom doors that had, both metaphorically and literally speaking, been closed on some teachers for several decades, was fascinating. Although students in those classes were initially briefly interested in my presence, usually within five minutes I became unnoticed and teachers regularly commented (sometimes ruefully) on the fact that the students were “no different from usual”.

Having never believed in trying to ‘catch out’ a fellow professional, I always gave prior warning of my visits and expressed a desire for teachers to invite me into a lesson to see their best practice. I learnt how to give positive feedback first, but to always include suggestions for improvement so that staff did not feel cheated and as though the observations were pointless.

I carried out the research reported in this thesis whilst working as Director of Pedagogy at the independent school described previously. The aims of the research were developed to articulate with and inform the scope and responsibilities of my new role. The creation of this post within the school was based on the premise that instructional leadership is an important facet of teachers’ professional development but that executive or senior members of school management teams do not always have the time, skills or experience to be the right people to directly influence classroom practice. In some cases, their role in influencing teaching is to put into place the mechanisms and staffing to delegate this responsibility to someone else.
Southworth (2002) wrote about the dilemmas of school leadership in terms of head teachers in England (principals) being “expected to be both organisational managers and leaders of effective teaching and learning” (p. 76); necessitating the possession of skills that their training may not currently provide. He continued, “Instructional leadership requires individuals to have high levels of knowledge and understanding of curricula, pedagogy, student and adult learning” (p. 87) and claimed that “It is now imperative that school leaders develop and sustain high levels of knowledge and understanding about teaching and learning” (p. 88). Hill (2001) agreed that the “instructional leadership orthodoxy implies that principals should have very specific knowledge related to teaching and learning” (p. 2) and lamented the fact that educational leaders may not possess the necessary knowledge and understanding of teaching and learning to provide effective leadership in this crucial area, as their knowledge may be out of date.

O’Hanlon and Clifton (2004) reinforced the need for effective principals to “encourage staff development and push very hard for teachers to have the time to talk through and then implement what they are learning” (p. 41); they were in no doubt that the role of the principal does include leadership of teaching and learning. They wrote about building effective relationships with staff and providing support and training - their recommendations to principals included the advice, “You must continue to provide guidance and support. It is the principal’s job to make certain that teachers are successful in the classroom” (p. 41).

Given the changing focus of the principalship and the difficulties of time and skill base described, one effective way of ensuring that classroom practitioners receive the feedback necessary to develop an effective learning community is to delegate this task to a specific person within the school. In this case, I took on the role as Director of Pedagogy. My previous four years spent as head of science within the senior school led to an understanding of what constituted good practice within that subject area and I proposed to start the job by extending my understanding of excellent teaching to other departments, particularly with regard to differentiation, within the other departments.

I was aware that it would not always be the case that teachers automatically believe that professional coaching is either useful or necessary. Pierce and Stapleton (2003) warned that “Many teachers do not believe that learning problems can be solved by inquiry, by
evidence and by science” (p. 12) and explained that teachers do not always see the need to understand developmental learning theories. “Nor are most teachers interested in addressing the intellectual and professional challenge that some of their students will learn the content and some will not” (p. 12). They noted that classroom visits and subsequent questions regarding teaching could be viewed as “a violation of the teacher’s autonomy and professionalism” (p. 12) and this was an issue about which I knew I needed to be acutely aware.

My role at the school provided an opportunity for this research. It is important to re-iterate that in this role, I played no part in the appraisal, review or performance management of teachers and worked with teaching colleagues in confidence, to support them in their classrooms and with their personal professional learning. This was made clear to all teaching staff and regularly emphasised by the executive of the school.

I understood the need for absolute confidentiality regarding teachers’ most private of spaces, their own classroom and initially had to frequently reply “I don’t talk about what goes on in people’s classrooms” in answer to any questions about what I had seen. An extract from my job description was presented previously in this chapter (Figure 3) and illustrates the wide-ranging nature of the role, which covered the professional development of both new and experienced staff as well as the leadership of pedagogical practices within the school.

Blase and Blase (1998) investigated how effective leaders affected teaching and learning in their schools. These leaders used instructional conferences with teachers to ensure they could benefit from classroom observation and data-gathering methods as well as gaining a better understanding of the relationship between teaching and learning. They suggested that effective conference strategies include making suggestions, giving feedback and soliciting advice and opinions. They described good instructional leaders as realising that most teachers expand their teaching range only with carefully designed support and assistance, rather than assuming that most teachers can analyse their own teaching and act on that analysis to develop their pedagogy. This matched the school’s aim for the Director of Pedagogy to act as a teacher coach, supporting the work of classroom teachers who were struggling as well as developing to a higher level those who were already effective practitioners.
Although Goldhammer’s (1969) view that the observer should have “few if any preconceived notions of what constitutes effective teaching” (p. 19) seems somewhat illogical, he explained that he deliberately did not structure his observations in advance “so that, for example, I should only record data in certain predetermined categories” (p. 19). In a similar way to Goldhammer, I felt it was important to start the process of observing teaching without rigid, pre-determined ideas on what I would be looking for and to this end, I designed an open-ended observation form on which I took notes during the lesson observations.

I was aware of Toch and Rothman’s (2008) study which evaluated current evaluation practices and concluded that many are “superficial, capricious, and often don’t even directly address the quality of instruction, much less measure students’ learning” (p. 1) and I knew how important it was that the notes I provided on teachers’ lesson observations were neither superficial nor “nothing more than marking satisfactory or unsatisfactory” (p. 2). Downey et al. (2004) cautioned against the use of a “checklist of things to look for or judgments to be made” (p. 3), explaining that “Checklists signal a formal observation and one that often looks like an inspection” (p. 3). Similarly, a further justification for using an open feedback recording form in the initial stages of my work as Director of Pedagogy was to avoid that idea of a checklist mentality.

Weisberg et al. (2009) identified flaws in teacher evaluation processes in their study of 15,000 teachers. Seventy three percent of the teachers they surveyed claimed that their most recent evaluation identified no areas for development, which must render the process pointless. I was determined that the feedback I gave teachers would be useful and would include focussed and individualised suggestions for development. I also was acutely aware of Haefele’s (1992) lament over the prevalent model of teacher evaluation in which teachers passively depended on others such as principals to monitor their work and make suggestions for improvement. My aim was to institute a process in which teachers were active participants in a discussion of their teaching and consequently far more likely to be open to constructive suggestions regarding opportunities for development.

In a similar way to Gitlin and Smyth’s (1989) dialogical approach whereby teachers work together to examine goals and how they could be reached, I wanted teachers to receive good quality feedback from which they could set their own targets and attain
them. This collegial model involved scheduling time for teachers to engage in a reflective process. As Haefele (1992) pointed out, “The teachers are the practitioners and, therefore, the most appropriate actors in the process” (p. 341). He described the primary goal of this model as:

… encouraging dialogue among teachers – to empower them to examine, or evaluate, what they are doing and how what they are doing relates to a weaving together of motives, values and effective instruction. (p. 341)

My research aimed to explore ideas regarding instructional leadership and investigate their effects on teachers in the school. Although there are many styles of leadership, instructional leadership was considered the most relevant to this research, given that instructional leaders in education are those most involved in curriculum and instructional issues that directly affect student achievement.

A transformative approach is one in which a theoretical lens is used to focus and guide the investigation as well as one which results in recommendations for action based on the findings (Cresswell, 2009). I started this research with the intention of making recommendations for action based on the data collected. I hoped that working closely with teachers would enable me to suggest ways in which teacher leaders could develop their observation skills when viewing colleagues teaching and make more effective use of constructive feedback procedures when subsequently working with their staff.

### 3.7 Conclusion

This chapter justified the use of the qualitative research paradigm and the case study as a design. The setting of an independent boys’ school and the participant teachers involved were described. A detailed, reflexive account of the researcher’s experiences in education was provided to ensure that her personal background is understood by readers and the inevitable influence of the researcher’s subjective values on the research is recognised. The next chapter, Chapter 4, outlines the procedure used for the case study research.
Chapter Four: Procedure

Overview and Phase 1 – Establishing patterns of differentiation

4.1 Introduction

This chapter continues to describe the research methodology and provides details of the two phases of the research as well as the methods of data collection and analysis. The chapter concludes by outlining the procedures undertaken to ensure the quality of the research and an ethical approach.

4.2 Overview of the phases of research

Figure 4 summarises the data collection methods used within the two phases of the research. The methods are matched with the research questions to outline how data were collected to answer each question. For example, trailing students was used as a data collection method in response to Research Question 2, “What are teachers’ pedagogical practices with regard to differentiation in the classroom?” so this method is marked “RQ2” in Figure 4.

Phase 1 involved trailing two students separately from class to class, each for a full school day and interviewing teachers within their departments in the senior school, aiming to establish the degree to which a need for differentiated teaching within the school was recognised by teachers. Phase 2 involved a process of working with a small focus group of eight participant teachers who represented the diversity of teaching staff at the school in terms of gender, age and experience. These teachers were involved in professional reading, group discussion, lesson observation and subsequent individual feedback, to investigate whether their practice and their views on differentiation in the classroom changed.
Figure 4. The research process.
Table 1 provides an overview of the procedure of the study and how each phase of the research was matched with the four research questions.

Table 1
*Data collection procedures matched to the research questions*

<table>
<thead>
<tr>
<th>Phase</th>
<th>Procedures</th>
<th>Research Questions</th>
</tr>
</thead>
</table>
| **Phase 1**  
(Differentiation – the starting position) | Trailing individual students  
Focus group interviews  
Observation of teachers  
Evaluation of lessons  
Individual feedback, discussion and coaching | RQ2  
RQ1, RQ2, RQ3  
RQ2, RQ3, RQ4  
RQ2, RQ3  
RQ3, RQ4 |
| **Phase 2**  
(Professional learning group) | Individual interviews  
Classroom observations  
Discussion of research ideas  
Coaching  
Observation and feedback | RQ1, RQ3, RQ4  
RQ2, RQ3  
RQ4  
RQ2, RQ3, RQ4  
RQ3, RQ4 |

The case study was conducted in two phases. Phase 1 took place in the first year of data collection and involved an exploration of the current situation regarding differentiation in the school as a whole. Initially, a low ability student and a high ability student were each trailed separately for a six period day, to ascertain how teachers cater for different levels of ability within a mixed ability classroom. Subsequently, heads of department and teachers within each department were separately led through a structured interview schedule to ascertain their opinions on what constituted excellent teaching in their subject (the schedules are described and presented later in this chapter). Focus group interviews were then conducted with the teachers in eight academic departments within the school. This addressed Research Question 1, regarding teachers’ beliefs about excellent pedagogy in their subject area. This was followed by a series of 174 structured observations of teachers’ pedagogical practices in the classroom, with the researcher’s role being that of a non-participant observer. This addressed Research Question 2 regarding teachers’ pedagogical practices with regard to differentiation in the classroom.
Phase 2 of the research involved setting up a professional learning group of eight teachers keen to develop their classroom practice in a structured setting, creating resources and practising strategies that modelled catering for different ability students within a mixed ability classroom. These teachers were involved in more detailed individual interviews and observations of their classroom teaching to further address Research Questions 1, 2 and 3. A programme of structured coaching enabled the researcher to provide relevant academic reading for the participants, discuss the strategies they would like to investigate in their classrooms and give feedback and evaluations of the lessons subsequently observed. These methods addressed Research Question 4, regarding the impact that systematic lesson observation and subsequent feedback has on teachers’ beliefs and practice regarding differentiation over time. Detailed accounts of Phases 1 and 2 are given in the sections that follow.

4.3 Phase 1: establishing patterns of differentiation at the school

In March 2009, Phase 1 of the data collection commenced, aiming to explore what teachers at the school already practised in terms of differentiation in the classroom. The first priority was to ascertain the starting position of the school in terms of the degree to which differentiation was necessary in the classroom and how frequently differentiation was occurring in classrooms in different subject areas.

4.3.1 Trailing individual students

Trailing a high ability Year 8 student and a low ability Year 8 student within the school’s mixed ability classes was considered to be an effective way of observing how students at the two ability extremes were catered for by teachers in some classrooms. It was known that more senior classes (for example, Years 11 and 12) experienced almost no differentiated teaching as they focused on examination preparation, therefore a lower school age was considered more appropriate.

The school used ACER tests to monitor students’ progress. Results were available for students in this year group from four tests – the Progressive Achievement Test in Reading (PAT Reading) and the Progressive Achievement Test in Mathematics (PAT Maths); as well as two Monitoring Skills Development (MSD) tests, one verbal and one
quantitative. Australian Council for Educational Research (ACER) testing scores were used to select one student in the bottom ten students of the year group and one in the top ten students of the year group (see Table 2).

Table 2

ACER results used to select Students 1 and 2 from their cohort

<table>
<thead>
<tr>
<th>Student</th>
<th>PAT Maths</th>
<th>PAT Reading</th>
<th>MSD Verbal</th>
<th>MSD Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12/41</td>
<td>17/44</td>
<td>69</td>
<td>76</td>
</tr>
<tr>
<td>2</td>
<td>40/41</td>
<td>43/44</td>
<td>126</td>
<td>161</td>
</tr>
</tbody>
</table>

The two students’ results on these four tests can be seen in Table 2. ACER describes its PAT Reading test as:

A thoroughly researched and normed test for measuring and tracking student achievement in reading comprehension, word knowledge and spelling. It provides teachers with objective information for setting realistic learning goals and planning effective programs. (www.acer.edu.au)

ACER’s website states that the purpose of this test is to help teachers “monitor progress in reading comprehension, vocabulary and spelling, and to provide teachers with diagnostic information to inform teaching”. ACER’s MSD tests have been designed to help schools assess student performance and monitor that performance over time as well as to predict performance in Year 12. The test questions are not curriculum based, but aim to assess general reasoning ability and are useful because they can reflect when both low achievers and high achievers may be underperforming, for example.

ACER explains that the MSD tests are:

designed to be used in conjunction with achievement tests to identify students working at levels above or below their ability. These students can be investigated further with a view to placing
them in enrichment classes or to determine whether they require extra assistance. (www.acer.edu.au)

The school used the results of ACER tests as a supplement to in-school testing. The ACER results either confirmed the school’s test results or, in the case of discrepancies, highlighted students whose abilities need to be further appraised, to see whether they qualify for the support classes or whether they needed more challenging educational opportunities.

The two students selected were considered suitable candidates for observation for two additional reasons. First, neither boy was known by the researcher, which would help eliminate bias. Secondly, the boys had no teachers in common, which would enable a larger and possibly more representative sample of staff to be observed.

In both the PAT Maths and PAT Reading tests, Student 1 scored in the bottom three percent of the school’s cohort. His MSD results in both verbal and quantitative domains were well below average both for the school and nationally. His MSD scores showed a “beginning level grasp of secondary school entry-level skills” (www.acer.edu.au). Student 2’s PAT Maths and Reading test scores showed achievement above the ceiling of the test, suggesting that his very high ability levels in these areas meant that a different test would need to be used to assess his skills at a higher level. His MSD results revealed a “sound grasp of secondary school entry-level skills” and that he “deals effectively with challenging tasks”. His MSD quantitative (i.e. mathematical) test result was particularly impressive and suggested that he would be a definite contender for the top set in subsequent years.

Students 1 and 2 were therefore chosen as representatives of low ability and high ability students respectively, with a level of confidence that resulted from extensive consideration of their external assessment results. For students with diagnosed learning disabilities such as Student 1, whose low academic ability means that he is likely to struggle in many curriculum areas, the school’s psychologist writes a learning profile document. This aims to summarise a student’s strengths and weaknesses and offers teaching strategies and practical advice to teachers to enable them to cater for these students’ learning within a classroom context. An extract from Student 1’s learning profile is shown in Figure 5.
LEADING CHANGE – INFLUENCING CLASSROOM DIFFERENTIATION

**LEARNING PROFILE**

**OF ******

<table>
<thead>
<tr>
<th>STRENGTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Diligent and always tries to do his best.</td>
</tr>
<tr>
<td>• Very well organised and focused.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUPPORT PRESENTLY OR PREVIOUSLY IN PLACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• **** received support for comprehension, spelling and reading in the Prep school.</td>
</tr>
<tr>
<td>• Year 8 and 9 Curriculum Enrichment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUPPORT NEEDS</th>
<th>IN CLASS ACCOMMODATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Handwriting Speed – has significant difficulties with handwriting speed and fatigues quickly</td>
<td>• **** has had an OT report that recommended he use a laptop for English, SOSE and Science, which has been implemented by the School. Please ensure he has his laptop for extended writing tasks in these subjects.</td>
</tr>
<tr>
<td>• Reading</td>
<td>• **** takes most things literally and has difficulty understanding double meanings. Ensure he has a clear understanding of what is expected and check on him regularly.</td>
</tr>
<tr>
<td>• Comprehension</td>
<td>• Modify the quantity of written work he is expected to provide in a limited time or provide him with additional time for written work and other forms of assessment.</td>
</tr>
<tr>
<td></td>
<td>• Modify any work in the literacy area e.g. provide clear and concise directions for work assigned, allow for the oral administration of assessments, monitor the rate at which information is presented, provide a copy of the reading material with the main ideas highlighted or underlined.</td>
</tr>
<tr>
<td></td>
<td>• Provide frameworks and exemplars to structure and guide his extended writing.</td>
</tr>
<tr>
<td></td>
<td>• Explicitly teach and reinforce comprehension skills such as identifying/highlighting key words in a text and summarising information.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXTRA TIME FOR ASSESSMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• As a result of his difficulties **** is eligible for an extra 10 mins per hour of working time in assessments or use of a laptop for English, Humanities or Science.</td>
</tr>
</tbody>
</table>

*Figure 5. Learning profile of Student 1.*

For the sake of courtesy and to foreshadow a visit from the Director of Pedagogy, all teachers of the two students who were to be trailed were informed by e-mail that one of the students in their class was being trailed for the day. They were not told which student would be the focus of the observation. The teachers were asked to inform the researcher only if a test or assessment task was taking place that day, but to make no
changes to the lessons they had planned for the day. At no point was there any indication that either the teachers or students being observed were aware of the nature of the observations being made.

Students at the school were accustomed to the researcher attending various lessons in her role as Director of Pedagogy and were used to paying little attention to these visits. At the beginning of each class, basic details regarding the subject area, how many students were in the class and whether marked homework was returned were recorded. The number of learning profiles was recorded as one indication of the variation of ability of different boys in the class. As soon as the teacher started the lesson, the researcher began to take notes electronically, on a pre-prepared form (see Figure 6).

<table>
<thead>
<tr>
<th>Trailing a student</th>
<th>Date</th>
<th>Student name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher:</td>
<td>Subject:</td>
<td>Class:</td>
</tr>
<tr>
<td>Number in class:</td>
<td>Number of LP’s:</td>
<td>Ability grouping:</td>
</tr>
<tr>
<td>Homework set:</td>
<td>Marked homework returned:</td>
<td>Homework collected:</td>
</tr>
<tr>
<td>Teaching time:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
<th>Real Time</th>
<th>Mins</th>
<th>Teacher</th>
<th>Student</th>
<th>Resources/Apparatus</th>
<th>Indiv./Group</th>
<th>Comments</th>
</tr>
</thead>
</table>

Figure 6. Data observation form used when trailing students during the school day.
This process was carried out for each student for one six period school day. The researcher noted down the time allocated to various activities during each lesson and whether the activity involved the observed student working as an individual or within a group of students. The comments column was used to record any other information that was considered of potential relevance to the research questions, for example, if there were activities that appeared to be highly motivating to the student under observation, or if he seemed particularly disengaged; if questions were asked of this particular student (the teacher was unaware of which student was being observed) and if that student asked questions of the teacher. The number of minutes spent by the teacher and students on each activity during the lesson was noted, to allow subsequent analysis of the types of learning activities experienced by the students.

4.3.2 Data Collection Methods

Two types of interview were carried out during this stage of the research. Focus group interviews were carried out with teachers together with colleagues in their departments (Phase 1). Separate individual interviews were carried out with heads of department (Phase 1) and with teachers in the professional learning group (Phase 2).

4.3.2.1 Focus group interviews with teachers in departments

Focus group interviews are often used in public health education (Basch, 1987) and are an inexpensive and easily accessible method of gaining information from selected groups of participants (Bertrand et al., 1993). They also are invaluable in educational research when investigating opinions of participants such as those of teachers in groups. Belzile et al. (2012) explored the issue of participant interaction being omitted from much research involving focus group interviews and suggested that allowing such discussion to take place was important in terms of participants co-constructing meaning whilst taking part in the focus group. This was taken into account when planning the interviews for the research reported in this thesis, ensuring that the set up of the room ensured participants were able to see each other and interact effectively.

Gill et al. (2008) proposed that interviews “explore the views, experiences, beliefs and/or motivations of individuals on specific matters” (p. 292). In the study reported in
this thesis, the aim was to explore teachers’ beliefs specifically regarding excellence in their subject area and whether this included differentiated planning or not. Gill et al. (2008) suggested that interviews provide “a deeper understanding of social phenomena than would be obtained from purely quantitative methods” (p. 292) and are useful when “detailed insights are required from individual participants” (p. 292). Interviews were therefore considered ideal for the purposes of investigating teachers’ beliefs regarding their classroom practice.

Following Cresswell’s (2009) guidance, an interview protocol was developed to ensure consistency in asking questions and recording teachers’ responses during the interviewing process. Cresswell (2009) suggested that a typical qualitative interview includes an ice-breaker question followed by four or five questions designed to elicit information relating to the research questions as well as probes to encourage interviewees to explain or elaborate on their answers and this was the approach taken by the researcher. Merriam (2009) pointed out that acquiring good data is dependent on asking “well-chosen, open-ended questions that can be followed up with probes and requests for more detail” (p. 17). The open-ended questions used in these interviews did enable participant interactions and discussions to take place that yielded rich data.

Stewart, Shamdasani and Rook (2007) advised against using specific questions and referred to ‘interview guides’, emphasising that “the moderator and group should be allowed to modify if it proves desirable” (p. 37). Although the guide was described as setting the agenda for the focus group discussion, Stewart recommended that it “should grow directly from the research questions that were the impetus for the research” (p. 60). Focus group questions for the study reported in this thesis were written with the four research questions at the forefront of the researcher’s mind and are reflected in the protocol developed. Stewart (2007) described the contemporary focus group interview as generally lasting between an hour and a half and two and a half hours and usually consisting of “eight to 12 individuals who discuss a particular topic under the direction of a moderator” (p. 37) whose role is to keep the discussion focused and flowing.

The researcher ensured that she informed respondents about the details of the study as advised by Gill et al. (2008) and assured them of their anonymity, thereby making it “more likely they will be truthful” (p. 292). The interviews were conducted in
whichever location the heads of department normally held their fortnightly meeting, thus aiming for them to be in a familiar setting and “free from distractions and at times and locations that are most suitable for participants” (p. 292).

The large numbers of participants in many of the departmental groups (for example, there were more than a dozen full time equivalent teachers in departments such as mathematics and English) meant that recording and transcribing the interviews was impractical, so brief notes of teachers’ answers and comments were taken on a laptop computer and details were added later that day.

The aim of the protocol shown in Figure 7 was to establish background information regarding teachers’ opinions about their subject area and to investigate whether differentiation was spontaneously mentioned as a significant issue and something considered difficult to do. No specific interview question was included about differentiation because the researcher aimed to see whether it was mentioned as an important aspect of excellent pedagogy without prompting. It was considered that using the term ‘excellent teaching’ mirrored closely the language used in the school at the time and was therefore more accessible in terms of encouraging teachers to share their ideas on excellent teaching practice.

The teachers were interviewed at a department meeting as a focus group, in order to promote discussion between colleagues. To ensure as little inconvenience to staff as possible, the focus group interview took place wherever the normal departmental meeting took place, either in the classroom where they normally met or in the senior school staffroom. Eight departments were involved – all the academic departments in the school with the exception of the science department. The researcher had, until recently, been the head of science within the school and was giving the new incumbent time to establish himself as a new leader. Furthermore, the researcher had worked with the department for the previous four years and it was felt that her previous role might be too close to the research to be appropriate. It was decided, therefore, to not include the science department in the research; as eight of the nine academic departments within the school were represented, this would constitute the majority of staff within the school.
**Focus Group Interview Protocol for Subject Departments**

(* = prompts to elaborate on the question. # = specific name of that subject).

**Overall, why is your subject an important one for the boys to learn?**
* What’s the point of it?

**What sort of skills are you aiming to develop in the boys?**

**What sort of content knowledge are you aiming to develop in the boys?**

**What are the most enjoyable aspects of teaching this subject?**

**What are the most difficult aspects of teaching this subject?**

**What activities will I see in a # lesson?**
* How can different # lessons be structured?
* Would I expect to see a variety of parts to a lesson?
* Do # teachers break up their lessons into chunks?

---

*Figure 7.* Focus Group Interview protocol for subject departments.

The interview lasted the duration of one school period of either 45 or 50 minutes. Later in the day of the interview, the interview questions also were e-mailed to each teacher in that department, in case they preferred to contribute more anonymously or in their own time.

**4.3.2.2 Individual interviews with heads of department**

Yin (2009) described interviews as one of the most important sources of case study information. He saw them as guided conversations and pointed out that an effective stream of questions should not be rigid, something that was noted by this researcher as
different participants took the guided conversations in different directions. Simons (2009) suggested that one of the major purposes of in-depth interviewing is to promote active engagement and learning for both interviewer and interviewee. It offers the inherent flexibility “to change direction to pursue emergent issues, to probe a topic or deepen a response, and to engage in dialogue with participants” (p. 43), ideal in a study like this one, aiming to explore different participants’ beliefs about a complex issue such as differentiation in the classroom.

The interview protocol used individually with heads of department included the same questions as those asked of their teachers, together with a number of extra questions that aimed to give the researcher further background information about what would be seen when observing teaching within the department (Figure 8). The researcher also was trying to ascertain what level of formal lesson observation normally took place within the department, to work out whether teachers within each department were generally used to the idea of having their teaching observed and what type of feedback they normally received from their line manager. In this context, ‘formal lesson observation’ was the term used at the school to describe a pre-planned, deliberate visit to spend a whole lesson observing teaching and learning in a classroom, with a follow up feedback session.

For Phase 1 of the research, the heads of department were interviewed separately from their teachers, to give them the opportunity to point out any specific issues they saw within the department and to discuss their aims for the department. Heads of departments knew their teachers well and were in many cases able to provide up to date information about their teachers’ classroom practice. Head of department interviews took place during one school period and generally lasted the time of one school lesson, between 45 and 50 minutes. The two interview protocols enabled the researcher to consistently ask the same questions to each head of department and to teachers within each department.
Interview protocol used individually with heads of department
(* = prompts to elaborate on the question. # = specific name of that subject).

In terms of classroom teaching, what are your department aims for 2009?
* Personal aims for the department?

Do you do formal lesson observations on your teachers?

Are there any staffing issues I should be aware of before I visit classrooms?

Are there any subject issues I should be aware of before I visit classrooms?

Is there any particular focus you’d like me to have in my observations?

Overall, why is your subject an important one for the boys to learn?
* What’s the point of it?

What sort of skills are you aiming to develop in the boys?

What sort of content knowledge are you aiming to develop in the boys?

What are the most enjoyable aspects of teaching this subject?

What are the most difficult aspects of teaching this subject?

What activities will I see in a #### lesson?

Figure 8. Individual interview protocol used with heads of department.
In deciding the type of recording appropriate to both the focus group interviews with teachers and the individual interviews with heads of department, various options were considered. Simons (2009) described researchers who are lulled into a false sense of security in the belief that they can listen to audio recordings later, which he suggested might lead to interviewers not focusing enough during the interview to ask sufficiently deep questions. The time elapsing between interview and transcription also can make it difficult to recall the exact meaning and tone of what was said by the interviewee. It was decided that for Phase 1, the disadvantages of audio-recording the interviews outweighed any potential benefits, so interview notes were made on a lap-top computer at the time of the interview. Although the machine might have been seen to form a physical barrier between the researcher and the teacher, laptop computers are a significant and natural aspect of the school’s culture, provided to teachers by the school and used in classrooms on a daily basis. The researcher also is a fluent touch typist and the advantages of being able to record significantly more information using a computer compared with handwritten notes outweighed the possible barrier it could create.

Individual interviews with heads of department were conducted in a quiet office away from classrooms and colleagues for confidentiality purposes and to put the participants at ease (Briggs & Coleman, 2002). It was thought to be important that the heads of department felt able to speak candidly about their work and the staff in their department, to reveal their lived experiences, so these interviews took place in the Director of Pedagogy’s office, as it was centrally located and generally away from distractions and interruptions. Seven of the eight heads of department took part in these interviews (the exception was the head of physical education who was unable to take part but was confident that the teachers within his department would represent his views fairly). To ensure the suitability of questions used in the interviews, the researcher carried out initial trialling of the interview protocol with teachers who were not to be involved in the research. Modification of the interview protocol was not found to be necessary in this case.
4.3.3 Non-participant observation of teachers

Following the focus group discussions with teachers and interviews with heads of departments, 174 individual lessons were observed in the eight subject areas over a period of two years, aiming to describe the differentiation strategies in evidence in classrooms within the school.

Coolican (1990) defined a participant observer as being:

\[
\text{to some extent a part of the group of individuals being observed, whereas a non-participant observer observes from a distance and should have no effect on the behaviour being observed. (p. 60)}
\]

There is obviously a continuum of awareness in that people being observed can be more or less aware “of the exact extent to which, or reasons for which, they are being observed” (p. 60) and this may have an effect on the behaviour that is being observed. However unintrusive and non-threatening, it should be noted that the mere presence of another person in a classroom will affect the lesson in some way. In this study, the researcher ensured she sat at the back of a classroom during observations in an attempt to make her presence as inconspicuous and naturalistic as possible (Montgomery, 1999). Despite the school having no culture of classroom intervisitation, several teachers commented in the debriefs following the observations that within a very short period of time they had forgotten that the researcher was there, suggesting that her presence did not cause significant changes in teacher or student behaviour.

4.3.4 Evaluation of lessons and individual feedback

Appropriate feedback is characterised by being given within 24 hours of the observation and based on factual data. The data should be given as part of a two-way discussion and aim to lead to the development of strategies for building on what has been learnt (Hopkins, 2005). It was imperative for the trustworthiness of this research that an atmosphere of mutual trust be developed, with the focus being to give feedback to teachers who might be unused to their teaching being discussed in this way.

When carrying out observations, it is important to see the process as systematic and not just a casual occurrence (Merriam, 2009). Following the advice of Cresswell (2009), an
observational protocol (see Figure 9) was used for recording observational data collected whilst watching teaching.

<table>
<thead>
<tr>
<th>Notes on a subject Lesson</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Teacher name in room – date</em></td>
</tr>
</tbody>
</table>

| Notes on the proceedings |

| Questions, thoughts and comments |

*Figure 9.* Observational protocol used to record data when observing teaching.

As recommended by Cresswell (2009), the electronic form included information about the time, place and date of each lesson as well as space to record data during the observation. The researcher used the lesson observation protocol to record the proceedings of the lesson (a descriptive account of what occurred, what the teacher did and what the students did) to provide a written record of what occurred and to ensure a common understanding of the lesson’s structure through subsequent questioning. Sufficient detail was included in the notes to enable subsequent reconstruction of the lesson. This was followed by a more subjective “questions, thoughts and comments” section which enabled productive discussion to take place with the participant teacher.

In Phase 1 of this study, the initial aim of feedback sessions was to share information gathered during the observation and agree on a common understanding of what occurred. The discussion then turned to what the researcher considered to be the successful aspects of the lesson and the opportunities for development. Feedback to teachers was given individually and, in the vast majority of cases, within 24 hours of the observation taking place. It was considered vital that teachers be aware that feedback
was confidential and would not be shared with others within the institution. Some teachers chose to share their feedback with their head of department whereas others opted to keep it to themselves.

Each teacher whose lesson had been observed was first asked for their own reflections on the lesson, as Montgomery (1999) suggested that until whatever concerned the teacher about their lesson has been expressed, they will be unable to hear anything that is said to them. When this had been discussed, a printed copy of the running record of the lesson was handed to the teacher to read. The record was descriptive and specific, referring to the lesson that had just been observed and making suggestions for the future. The interview involved discussing points to broaden the ideas and explanations whilst reading the record as well as checking what had been recorded, in case some events were seen differently. The researcher annotated a paper copy of the observation notes as they discussed the lesson with the teacher. The aim of the annotations added to the observation notes was to ensure that a record was kept of the valuable discussions that took place with each teacher after each lesson observation. See Figure 10 for an example of annotated observation notes.

Figure 10. Section of annotated observation notes from one of Mr Ashwell’s lessons.
4.4 Phase 2: professional learning group

Having ascertained the level of differentiation occurring at the school during Phase 1, Phase 2 of the research involved working with a small group of teachers in a professional learning group. The aim was to investigate pedagogy and differentiation in the classroom and what strategies could be used by leaders to influence teachers by changing their classroom practice.

4.4.1 Phase 2 participants

In December 2009, seven teachers were approached and asked whether they would be prepared to be actively involved in a group of staff who were interested in trying out ideas for practices using differentiation in their classrooms. LeCompte and Tesch (1993) suggested the term ‘criterion-based selection’ was preferable to the term ‘purposeful sampling’, and advocated listing the essential attributes of the sample and “proceed to find or locate a unit matching the list” (p. 70). They went on to suggest that “you not only spell out the criteria you will use, but you also say why the criteria are important” (p. 78).

To ensure a wide cross-section of the teaching staff at the school, the criteria for this sample of participants who would be embedded units of analysis were to include as many different subject areas, ages, genders and levels of experience as possible as well as encompassing both the senior school (Years 7 to 12) and the preparatory school (Years Pre-primary to 6). The teachers were told that they would meet others to discuss differentiation and would be observed teaching in their classrooms as well as being interviewed about their experiences. Following the University of Western Australia’s ethics guidelines, written, informed consent was obtained from these staff regarding their involvement in the study before their participation started. The consent forms for teacher participants and the principal of the school are provided in Appendix 1.

A protocol was drawn up to ensure consistent recording of biographical details of the staff involved (see Figure 11). Basic details of participants’ personal backgrounds and teaching experience were recorded.
The purpose of asking these biographical questions was to discover and record background information on the teachers involved in the professional learning group. Asking these questions of each teacher took approximately twenty minutes and took place at a mutually convenient time, in the Director of Pedagogy’s office. Two teachers offered to supplement their answers to the questions by subsequently submitting a copy of their curriculum vitae to the researcher and these documents were used to extract information regarding the teachers’ professional experience.

An eighth member of staff (Mr Ashwell) joined the school in February 2010 and was subsequently asked to join the professional learning group due to his expressed interest in exploring the use of differentiation specifically for gifted and talented students in the classroom.

The teachers’ names were codified to ensure anonymity. Table 3 provides summary information about the teachers involved in Phase 2 of the research, including their pseudonyms and coded initials.
Table 3
*Details of teachers involved in the professional learning group*

<table>
<thead>
<tr>
<th>Teacher pseudonym and code initials</th>
<th>Subject area</th>
<th>Teaching Experience (Years)</th>
<th>Age band</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms Hague (CH)</td>
<td>Primary</td>
<td>7</td>
<td>26-30</td>
<td>Female</td>
</tr>
<tr>
<td>Mr Edwards (PE)</td>
<td>Primary</td>
<td>32</td>
<td>51-55</td>
<td>Male</td>
</tr>
<tr>
<td>Ms Lacey (CL)</td>
<td>English</td>
<td>3</td>
<td>26–30</td>
<td>Female</td>
</tr>
<tr>
<td>Mr Abbot (GA)</td>
<td>Humanities</td>
<td>5</td>
<td>46-50</td>
<td>Male</td>
</tr>
<tr>
<td>Mr Evans (HE)</td>
<td>Languages</td>
<td>7</td>
<td>31-35</td>
<td>Male</td>
</tr>
<tr>
<td>Dr Oliver (HO)</td>
<td>Science</td>
<td>9</td>
<td>31-35</td>
<td>Female</td>
</tr>
<tr>
<td>Mr O’Connor (RO)</td>
<td>Mathematics</td>
<td>25</td>
<td>46-50</td>
<td>Male</td>
</tr>
<tr>
<td>Mr Ashwell (MA)</td>
<td>Mathematics</td>
<td>6</td>
<td>25-30</td>
<td>Male</td>
</tr>
</tbody>
</table>

Three female teachers and five male teachers were involved in the professional learning group, with a total of 94 years’ teaching experience between them. The least experienced teacher involved had been teaching for three years and the most experienced for 32 years. Two teachers worked in the preparatory (primary) school and six in the senior (secondary) school.

At the end of the 2009 school year, participants were each provided with a copy of Carol Tomlinson’s 2003 book entitled *Fulfilling the promise of the differentiated classroom: Strategies and tools for responsive teaching* to read during the long summer holidays. This book was chosen because it provided a justification for using differentiation in the classroom and included practical strategies that teachers could plan to use in their own teaching. The researcher first ascertained that none of the teachers in the professional learning group had previously read this book. The significance of providing this text was that it would focus the teachers’ thinking on differentiation strategies. The aim of this particular professional reading task was to provide a vehicle for the teachers to think about differentiation during the break from school and to create
a common reading experience to initiate and stimulate group discussion at the beginning of the new school year in 2010.

4.4.2 Initial individual interviews

The initial individual interviews with the professional learning group teachers took place in November and December 2009 and involved questioning them in detail about their views of differentiation in the classroom, by establishing what the term meant to them, whether they had tried it and ascertaining their ideas on strategies that could be used to try to successfully introduce differentiation into their teaching. Each interview took approximately 50 minutes (the time of one scheduled lesson) and was recorded on a laptop computer using the protocol shown in Figure 12. An example of the notes taken during the initial interviews can be seen in Appendix 2. The notes made were subsequently coded using the coding manual described in Section 4.14.
**Initial Individual Interview Protocol**

*(trying to establish what they think differentiation means, whether they’ve tried it, how it went (if they did), what has prevented them trying it (if they didn’t) and what their ideas are on what they want to do for this project.)*

<table>
<thead>
<tr>
<th>Question</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>What does the term “differentiation” mean to you?</td>
<td></td>
</tr>
<tr>
<td>Do you think it’s important that teachers use differentiation in their teaching?</td>
<td>(Why?)</td>
</tr>
<tr>
<td>Have you used differentiation in your classroom?</td>
<td>(When? With whom? Details?)</td>
</tr>
<tr>
<td>If yes - how did the lesson go?</td>
<td>(Differently from normal? Better/worse? Any differences in the boys’ behaviour? Follow up – done more?)</td>
</tr>
<tr>
<td>If no – why not?</td>
<td>(What has stopped you? What has prevented you trying it? Why do you generally not differentiate?)</td>
</tr>
<tr>
<td>What ideas do you have in terms of differentiation that you’d like to try in your classroom?</td>
<td>(Where did the ideas come from? what do you need from me to support this?)</td>
</tr>
</tbody>
</table>

*Figure 12. Initial individual interview protocol regarding differentiation for the professional learning group teachers.*

Pen portraits are informal descriptions of people which may cover age and other factual variables but also include information on dimensions such as attitudes and experiences. Individual pen portraits were written using information gathered during these initial interviews and these are presented in Chapter 6.
4.4.3 Initial focus group interview

Six of the eight teachers in the professional learning group were interviewed as a focus group in February, 2010. The two preparatory school teachers were unable to attend the focus group interview and were therefore interviewed separately. The aim of the interviews was to explore the teachers’ ideas regarding how they intended to use differentiation strategies with their students during 2010.

Rather than having a set of protocol questions for the focus group interview, it was felt that the discussion would run effectively if teachers brought to the meeting their specific plans for their part in the differentiation project. Two weeks prior to the meeting, they were therefore asked to consider their ideas about the sort of differentiation strategies they planned to use in their classrooms and to be prepared to briefly outline their plans and have them discussed by colleagues. This format worked effectively and teachers summarised their ideas and responded to questions from others in the professional learning group.

The school’s learning development teacher (whose role was to work with students with special needs and formulate learning profiles for them) was invited to attend the group interview as it was felt that he might be able to contribute by way of offering useful advice to staff considering students with special needs. The focus group interview was conducted in a quiet meeting room in the administration building of the school, where disturbances were thought to be less likely. The proceedings lasted approximately two hours. As the focus group interview involved a smaller number of teachers than the Phase 1 focus group interviews (which had been conducted in subject departments) and there were no objections to recording, a laptop computer was used to digitally record the interviews which were subsequently transcribed by the researcher. These transcripts were subsequently coded using the coding manual described in Section 4.9 (a section of a coded transcript can be seen in Appendix 3).

4.4.4 Observation, feedback and coaching

During the 2010 school year, the professional learning group teachers were observed in their classrooms and feedback and coaching offered. This varied considerably between
teachers, some made the researcher a regular participant in their class whilst others received one visit and held limited conversations about their work. Details of the work carried out with each teacher are described in each individual teacher’s section in Chapter 6.

Interviews and observations are often used as companion methods in case study research. Simons (2009) suggested that formal observation “provides rich description and a basis for further analysis and interpretation” (p. 55). In this study, interviews both prior to observations and after viewing classroom teaching were used to ascertain the teachers’ understanding of what transpired during the lesson. Murphy et al. (2008) insisted that “feedback about performance is essential to the learning process” (p. 12) and described leaders in effective schools as “diligent about providing this information to colleagues on a consistent basis and in a timely manner” (p. 12).

Reviewing the notes made during lesson observations and subsequent individual discussions with teachers triggered various thoughts in the mind of the researcher, which were noted down in an electronic reflective diary as research notes. Examples of such notes are shown in Figure 13.
With her developmental maths groups and her guided reading groups, Ms Hague seems to have always done this – do primary teachers differentiate more intuitively? Or are they trained more effectively to do this?

Ms Lacey’s diagnostic test gives her a good indication of what her boys can already do. Her noting down of where students are up to matches closely Mr Evans’ notebook idea for his German students. Ms Lacey has clearly thought a lot about differentiation and the best way she can cater for the huge range of abilities in her English classroom. She is very much considering individual needs rather than differentiating for groups of boys. Her pre-prepared booklet lets her give relevant tasks to early finishers. Is this a strategy that, once prepared, might enable more teachers to differentiate without excessive planning time? She has thought about the boys’ self-esteem and the skills that they are learning that will help prepare them for upper school.

Mr O’Connor’s top set involves his differentiating for an Olympiad student and seven “very good” ones as well as having a generally bright class of boys. He is aware of the need to protect the boys’ self-esteem (writing on their desks etc). He asks lots of questions in answer to questions and always tries to get them to think. Interesting how the boys work happily on a fairly tedious paper task. He’s very positive about their efforts to think.

Mr Evans
He has clearly thought his idea through and intends to make it work. His consideration of the boys’ needs includes many comments on the affective aspects of their learning – he talks a lot about the range of motivation in the class. His strategy is going to be very individualised, using a journal to log “student motivation, achievement, attitude and ways in which I could improve their learning”. The workload involved in his strategy of providing student-specific work was the main off-putting factor for him. He also mentioned the low uptake of individualised work and said that he stopped providing it when he realised the boys were not keen enough to put in the effort necessary.

Questions/issues/thoughts
How do teachers tell boys which task they’re going to do? Without embarrassing some of them?

How do teachers initially work out the range of abilities in their class?

If preparation time is an off-putting factor for time-poor teachers, could the pre-prepared resources mentioned by CL be of use? Could departments produce them for all teachers to use? This would also solve HE’s problem of inordinate amounts of time spent sourcing and producing student-specific resources … (“Searching for, categorising and then finding student-specific resources takes an inordinate amount of time; at least until one has established a catalogued database of resources”.)

Some teachers have concerns – could they be disadvantaging students when it comes to the test if they’ve been doing different work?

Figure 13. Example of research notes made when reviewing lesson observations and subsequent discussions.
In May 2010, Mr Abbott left the professional learning group, citing work pressures and a lack of time to participate as his reason for withdrawal from the group. He also expressed the view that he no longer saw the need for explicit, planned differentiation in the class with which he had intended to carry out his project as the weakest four boys had been removed from the class. He now felt that in the absence of these four boys, differentiation could be appropriately achieved by targeting different questions to different boys and focusing individualised attention to specific students. Mr Abbott did agree to participate in a final, individual interview at the end of the year.

### 4.4.5 Final focus group interview

A second interview with the professional learning group was held in July 2010. Seven teachers were present – all the original focus group except Mr Abbott. This interview was transcribed by the researcher and a section of coded transcript can be read in Appendix 4. As the initial group interview had been such a rich source of data, a similar format was used. Rather than have a rigid protocol of questions, teachers were asked to spend three or four minutes telling the group what they had done in terms of differentiation in their classrooms and then answer questions and discuss their thoughts at the end of the year. Because all the teachers present had been involved in some aspect of differentiating their teaching, the discussion was lively and informative and again, rich, thick data were obtained. Two of the teachers commented afterwards that spending time discussing teaching and classroom strategies with experienced colleagues made a refreshing change and constituted valuable professional development.

### 4.4.6 Final individual interviews

Final individual interviews were held with all eight teachers (including Mr Abbott who was no longer actively involved in the professional learning group) in December 2010, approximately a year after the professional learning group teachers had initially become involved in the research project. The semi-structured interview involved four questions which were developed to explore the teachers’ use of differentiated teaching strategies; what they had discovered during the year and whether their opinions regarding differentiation had changed during the project. The final individual interview questions are shown in Figure 14. In a similar set up to the initial individual interviews, each
LEADING CHANGE – INFLUENCING CLASSROOM DIFFERENTIATION

participant responded for approximately the length of one school lesson (50 minutes) and notes were recorded on a laptop computer. An example of the notes taken during a final individual interview with Mr Evans can be seen in Appendix 5.

<table>
<thead>
<tr>
<th>Final individual interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What have you learnt from your differentiation efforts this year?</td>
</tr>
<tr>
<td>• Has it changed your thoughts about teaching high/middle/low ability students?</td>
</tr>
<tr>
<td>• What would you recommend to colleagues keen to have a go at differentiating their teaching?</td>
</tr>
<tr>
<td>• What are your thoughts on how school leadership teams can support teachers to differentiate their teaching?</td>
</tr>
</tbody>
</table>

*Figure 14.* Semi-structured interview questions used for final individual interviews with the professional learning group teachers.

4.7 Artifacts

Various artifacts were used to contribute to the thick, rich data collected during the research. For example, Ms Lacey contributed her curriculum vitae which gave an insight into the type of teacher she recognised in herself (see Figure 15).
Ms Lacey’s Curriculum Vitae  [ms.lacey@gmail.com]

Objective

My objective as an English teacher is to inspire, motivate and empower students to reach their potential. I aim to provide a safe and nurturing environment in the classroom and inspire my students to value learning. I constantly scaffold and model tasks for my students and give them confidence to achieve their goals. This encourages them to become autonomous, reflective and self-motivated learners.

Figure 15. Extract from Ms Lacey’s curriculum vitae. (e-mail address modified for reasons of confidentiality).

Another example of an artifact used as data was Mr Evan’s journal (Figure 16).

Figure 16. Section of Mr Evan’s notebook.

Figure 16 shows a small section of Mr Evans’ journal, written as part of his personal project on differentiating German learning. The journal extract described a student’s work in Week 4 – Mr Evans commented on the student’s “solid essay with some
pertinent points raised and relatively well presented”. He went on to describe an assessment task, commenting that not enough care was taken and reporting that the student is too confident and needs to combine this with more rigorous study and work habits, stating that he is still “a little laid back”, despite parent/teacher discussions.

It is evident from this small extract that Mr Evans’ notes contained many details about his students’ progress which would assist in planning an individualised (differentiated) learning programme for each student.

4.8 Data analysis

A systematic process was used to analyse the qualitative data, much of it based on the six step process advocated by Cresswell (2003).

Data analysis in the first phase of the research involved reading through all the data collected, to become immersed in the data. This enabled the researcher to make sense of the information and to reflect deeply on its overall meaning. Observation notes were read a number of times until themes emerged from the data.

Analysis of data from the first phase of the research was instrumental in formulating the data collection during the second phase. The patterns and trends that were observed in Phase 1 were used to inform what was then planned with the smaller group of participants in the professional learning group for Phase 2. Interviews from Phase 1 were used to ascertain teachers’ beliefs about differentiation and Phase 1 lesson observations were used to generate information about how many lessons observed included differentiated activities, how much time was spent listening to the teacher versus more active learning strategies.

Pen portraits were written for each teacher involved in the Phase 2 professional learning group. Data from the initial individual interviews, responses to biographical prompts regarding the number of years they had been teaching and their background as well as the curriculum vitae provided by some participants were used to construct descriptions of each teacher and quotations were used wherever possible, to give the reader an insight into the personalities involved. The aim was to paint a rich picture of the
teachers’ knowledge and beliefs regarding differentiation in their classrooms. Direct quotations were included to create authenticity and give a realistic indication of the teachers’ thoughts. One pen portrait was initially developed, and the others then written in a similar structure. These pen portraits are presented in Chapter 6.

For data collected during Phase 2, the six step procedure suggested by Cresswell (2003) was utilised. Step 1 involved organising and preparing data for analysis, typing up field notes and transcribing interviews. Step 2 involved reading through all the data and reflecting on its overall meaning. Cresswell suggested gaining a general sense of the information by asking such questions as “What general ideas are participants saying? What is the tone of the ideas? What is the general impression of the overall depth, credibility and use of the information?” (p. 191). An example of the annotations that were added to transcripts is provided in Appendix 6. Step 3 involved coding the data, or “organizing the material into ‘chunks’ … and labeling those categories with a term”, often using “the actual language of the participant (called an in vivo term)” (p. 192). The grouping of codes into themes took place in Step 4; and Step 5 involved working out the best way to represent these themes and discuss them, whether that be as a model or case study, for example. The final step, Step 6, involved “making an interpretation or meaning of the data” (p. 194). An inherent advantage of this qualitative approach is its flexibility and the way it can “convey personal, research-based and action meanings”.

A set of codes was developed and used to analyse transcripts of the interviews which were coded in their entirety, labelling each category. An example of coded responses from the initial group interview can be seen in Appendix 7. The coding process was repeated with a teacher who was not working at the school nor involved in the research and one who was a participant in the research, discussing and refining the code definitions and examples until an inter-coder reliability greater than eighty percent was achieved. The themes developed from this coding process led to interpretations of the data’s meaning.

4.9 Development of the coding manual

Without reference to the collected data, potential descriptions and suggested possible groupings for the coding manual were brainstormed. Version 1 of the coding manual
was written (Appendix 8). It included a range of potential codes including reasons why teachers do not differentiate, how differentiation can benefit student learning and comments on students who find learning very easy or difficult.

Reading through the data collected during the first group meeting of the teachers investigating differentiation in their classrooms, various themes became apparent. The teachers’ statements were coded according to Version 1 of the coding manual. Although this exercise revealed that some codes were probably not needed, they were not deleted yet as it was considered that they might be of use when subsequently coding other data. “Outcome negative”, for example, was a code that did not feature in the data collected during the first group meeting, but which it was thought could feature in later discussions with teachers, so the code was retained. Other codes were added, for example, “Range of ability in class” was added following teachers’ comments regarding the wide range of student abilities that they were dealing with in classes.

Accommodating these changes meant developing Version 2 of the coding manual (Appendix 9). This incorporated a two or three letter code matched to each description for easy referencing of the statements, for example the code PRY denoted “Practical Reason Yes”, and was described as a practical reason that teachers used to justify the need for differentiation; The code SR stood for “Students Realise” and the accompanying description involved comments regarding students knowing that they had been placed in a different group or been given different work from their peers.

It was considered that matching a quotation to each code would help illustrate it more effectively. Version 3 of the coding manual (Appendix 10), therefore, involved the code, what the code letters stood for, a description of the code and an illustrative quotation. For example, the code SR (“Students Realise”) was clarified by the illustrative quotation “It’s a worry if you group them like that, though, because they know straight away”.

At this point, Version 3 of the coding manual was given to Mr Ashwell, a teacher who had participated in the interviews, and his opinion was sought on whether the code descriptions made sense and whether the illustrative quotations were appropriate and clarified each code. Mr Ashwell’s comments included the fact that the “Challenges of
Differentiation” code was too general a description and that it might be split into further categories. This was accounted for in the next version, in which the code for “Challenges of Differentiation” was divided into various other codes including “Challenges of extra work”, “Streaming Difficulties” and “School Operational Difficulties”.

Themes began to emerge from the process of coding the data and, as a consequence, the codes were classified into four categories:

1. Reasons for/against differentiation
2. Strategies used in classroom differentiation
3. Challenges involved in differentiating teaching
4. Outcomes of differentiation

To make the relationship between individual codes and categories more evident, the first letter of each code was changed to refer to its category – R (reasons), S (strategies), C (challenges) or O (outcomes) and the second and third letters describe the code itself. For example, STS became the code for teacher streaming (TS) in the category of Strategies (S). These changes formed Version 4 of the coding manual (Appendix 11).

To clarify the fact that some codes referred specifically to catering for higher (H) or lower (L) ability students, (H) and (L) were added to some codes. This strategy did not prove helpful as it transpired that many codes could refer to both high and low ability students. For example, SIH, the strategy of individual help (when one teacher works on a one-to-one basis with a student), this could equally refer to a high ability student working individually with the teacher on extension work or a low ability student requiring individual support to complete a task. The (H) and (L) codes were therefore abandoned.

Through the use of Version 4 of the coding manual to code the data from the final group interview with the teachers investigating differentiation in their classrooms, it became clear that further codes were required in two categories – the “Strategies used in Classroom Differentiation” and “Challenges involved in Differentiating Teaching” categories. For example, a number of teachers spoke about the challenge of differentiating when having to deliver a mandated curriculum, especially with older
students in Years 11 and 12; and the challenge of dealing with reluctant workers, when students might choose not to work to their potential.

These and a number of other codes were added to the relevant categories to form Version 5 of the coding manual (Appendix 12). A final coding of the data collected during interviews with individual teachers necessitated adding extra categories such as SHW (Strategy of Harder Work) when the teacher sets more difficult work for some of the students. Further illustrative quotations from these interviews were added and this resulted in the final version of the coding manual - Version 6 (Appendix 13).

Version 6 of the coding manual was then used to code the initial interviews, final interviews, initial group meeting and final group meeting. Minor changes were made as annotations to the coding manual which became the ‘final coding manual’. For example, it became clear that “Outcome Perception [of] Students (OPS)” which described how the students viewed being put into different ability groups or classes was better categorised under the code “Challenge Student Visibility” which included comments relating to the fact that the teacher perceived some of the students not wanting to be identified as receiving different treatment, whether that be to make the work more accessible to lower ability students or extension work to challenge higher ability students. Additional codes for two strategies were added (“Strategy Different Work (SDW)” and “Strategy Extra Work (SEW)”) and examples of illustrative quotations were added to clarify these new codes. “Challenge Spoiling Future [Learning] (CSF)” was added to the challenges categories, to describe the concern some teachers had regarding planning extension or challenge work which could make subsequent years’ teaching difficult for teachers of boys who had already encountered this work.

4.10 Research quality

A multi-layered and comprehensive approach was employed to maintain the quality of the research process and findings.

In terms of the coding processes undertaken, coding listings and definitions were maintained during the time it took to build six versions of the coding manual using
participants’ responses to individual and focus group interviews. Codings were validated by a colleague and an independent person to avoid the “considerable variation in the ways that they packaged coding frameworks” against which Barbour (2001) warned when dealing with complex, qualitative data. Although a satisfactory level of 80 percent inter-coder reliability was achieved, Barbour (2001) was clear that it was not the level of agreement between coders that was essential, more the value of the discussion that ensued.

Other measures designed to increase the quality of this research included sharing the work with an external auditor who was au fait with academic research yet unfamiliar with this project. This auditor did not work at the case study school and was therefore able to provide an objective, outsider’s point of view. Her comments throughout the research process and at the conclusion of the study were invaluable in terms of providing feedback.

Advocates of qualitative research such as Seale (1999) insist that the language used must differ from that of quantitative researchers. Sparkes (2001) entirely rejected the idea of validity in qualitative research and Lincoln and Guba (1985) proposed that since the term ‘validity’ was incompatible with the processes of qualitative research, it should be replaced by the term ‘trustworthiness’. Porter (2007) challenged “approaches to the possibility of validating qualitative research” (p. 79) and argued that a realistic approach to validity is necessary. Lincoln and Guba (1985) put forward the criterion of ‘credibility’, established using processes such as member checking, in which participants are involved in bringing their perspectives to the research.

In this study, member checking was used by showing relevant extracts from the written report to participants to ascertain whether they felt they constituted an accurate account of what happened and an appropriate analysis of the data (see Table 4). Participants were given the chance to comment on the findings, particularly important in Phase 2, when detailed work was undertaken with a small professional learning group. Simons (2009) referred to a similar strategy of respondent validation for “ensuring accurate and adequate multiple validation of events and experiences” (p. 131) and suggested that given the power of the narrative in interpretation, “it is essential to offer individuals an
opportunity to see and respond to how observations of them are presented in case study reports” (p. 105).

To this end, participants were shown the first draft of the sections that described findings from their lesson visits and the discussions regarding those observations. The participants were e-mailed an electronic version of the section that applied to them or given a paper copy and asked to read it and comment. The researcher then met up with each participant to discuss their comments and whatever amendments were requested. Ms Lacey, who had left the school by this stage, provided her comments via e-mail.

A number of changes were made to the data as a result of this process. For example, Ms Lacey indicated that she had changed her opinion on the importance of class sizes and requested that two quotations be removed from the account of her interview, which was immediately done. Mr Evans reported that he liked what he had read and felt the need to check that it did refer to his teaching. Ms Hague said that she was happy with the account. Mr Ashwell provided no written comments on the account of his interviews and teaching but reported that it did reflect his beliefs and what he did in his classroom and requested no changes. Mr Abbot asked that the wording of one phrase be changed to reflect his thinking that he had not been shown “a workable method” for differentiating his teaching. All requested amendments were made and a summary of these amendments is given in Table 4.
### Table 4

*Changes made as a result of member checking with participants*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Comments made</th>
<th>Action required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr Ashwell (in person)</td>
<td>“It all sounds like me”</td>
<td>No deletions or additions requested</td>
</tr>
<tr>
<td>Ms Lacey (by e-mail - at this stage she had left the school)</td>
<td>“I am very impressed by how well you have paraphrased me!” “I have only made two suggestions which involve deleting two things I have said which project something I don't fully believe … My opinion has changed slightly since this time”.</td>
<td>Two phrases deleted as requested</td>
</tr>
<tr>
<td>Mr Evans</td>
<td>Reported that reading what had been written about him was very affirming and that he had wondered whether it did actually refer to his teaching!</td>
<td>Minor edits requested – he spotted an identifying e-mail address in an extract from his diary and this was deleted.</td>
</tr>
<tr>
<td>Ms Hague</td>
<td>No written comments provided. Conversation with Ms Hague indicated she had no problems with what had been written about her.</td>
<td>No deletions or additions requested</td>
</tr>
<tr>
<td>Mr Abbott</td>
<td>Written annotations provided requesting a change of phrasing in one sentence.</td>
<td>Comment rephrased – from “No-one has shown me how to work it” [differentiation] to “No-one has shown me a workable method” [to differentiate teaching]</td>
</tr>
</tbody>
</table>

In an attempt to bring rigour to qualitative research, Pawson et al. (2003) developed a list of criteria that ensured researchers considered ethics and accessibility as well as the trustworthiness and credibility of their research. They listed transparency, accuracy, purposivity, utility, propriety, accessibility and specificity as criteria which, if fulfilled, would ensure rigour in the research.
Shenton (2004) pointed out that in qualitative research, reliability depends on consistency in the researcher’s approach and implies that the research is authentic and credible. In this study, reliability procedures were of particular importance in the coding process, when a colleague and an independent person were asked to cross-check the codes, as recommended by Cresswell (2009), for “intercoder agreement” (p. 191). Detailed written memoranda about the codes and their definitions were maintained in a qualitative code book and data were frequently compared with the codes to ensure that there was consistency in the coding. Many of the reliability procedures suggested by Cresswell (2003) were utilized in this study. For example, audio recordings of interviews were listened to multiple times whilst simultaneously reading the typed transcripts, to ensure that they did not “contain obvious mistakes made during transcription” (p. 191). Participants’ responses were frequently compared to the codes and “memos about the codes and their definitions – a ‘qualitative code book’” were recorded to ensure “no drift in the definition of codes” (p. 191). One of the participants was asked to cross-check the codes for intercoder agreement, again to ensure that no drift occurred. An independent person was asked to cross-check the codes, as recommended by Barbour (2001).

Simons (2009) described reflexivity as the way in which a researcher’s values, beliefs and biases influence the research process and outcome by influencing their actions and decisions. She described this as a particularly important issue in qualitative case studies which involve the construction of “an interpretation of the reality you observed and the stories people told you” (p. 91). She saw this reflexivity as a critical factor in ensuring the validity of a qualitative study. In order to clarify any bias brought to the investigation by the researcher, an honest, reflexive account of her background is provided in Chapter 3, written as a first person narrative in order to paint a vivid portrait of the researcher, another characteristic of good quality, qualitative research. Thick, rich descriptions (Cresswell, 2003) are used throughout to relate the findings of the research, with significant detail of the setting, for example, to create a detailed picture of the school and people involved in the research.

Different sources of data were gathered before themes started to emerge (interviews, lesson observations, days spent trailing students) utilising the triangulation of data collection methods. Triangulation of sources involves drawing interpretations from data
collected from several different sources. In this study, weaving together the data from both observations and detailed interviews provided a cross-check on the data obtained, thus strengthening the trustworthiness of the research. As a means of cross-checking the significance of issues, triangulation increases validity and strengthens evidence (Simons, 2009).

Spending prolonged time in the field lends credibility to the study as the more experience a researcher has with participants in their actual setting, the more valid the findings will be (Cresswell, 2009). The fact that the researcher had worked in the school for more than seven years in a number of different capacities (as a head of department, tutor and colleague in various co-curricular settings) meant that she had built relationships with these colleagues that would be likely to make the findings more trustworthy. Her experience at the school led to a good understanding of the teachers and students involved in the research, which undoubtedly gave more credibility to the investigation. An external auditor in the form of a teacher from a school not involved in the study and, therefore, unfamiliar with the research also was used to discuss the research findings to ensure their credibility and to confirm that the account of the research made sense.

To increase the reliability of information in a case study, Yin (2009) recommended maintaining “a chain of evidence” (p. 122). The principle is that a successful chain of evidence would allow a reader to follow the derivation of any evidence from initial research questions to final conclusions. This study involved maintaining such a chain of evidence, for example, by carefully documenting the procedures undertaken and annotating observation notes with comments made by participants during interviews. For ease of reference, all data sources were cross-referenced. In particular, quotations taken from focus group discussions within subject departments were given the reference FGD and those taken from initial individual interviews are referenced III. Section 6.1.1 gives details of this cross-referencing.

Yin (2009) pointed out that interviewees’ responses are subject to “the common problems of bias, poor recall and poor or inaccurate articulation” (p. 108) and recommended that researchers “corroborate interview data with information from other sources” (p. 108). To ensure trustworthiness, this study involved using information
from both interviews and classroom observations in tandem to answer the research questions.

To enable readers of a qualitative research study to become fully involved in the findings, rich, thick descriptions have been used to convey the findings and add to the validity of the findings. Merriam (2009) suggested that detailed descriptions of the setting, the findings, and evidence presented in the form of quotations from participant interviews as well as field notes and documents all strengthen the validity of a qualitative study. Accordingly, direct quotations from participants are included wherever possible in this thesis and a variety of their comments have been incorporated from different sources including interviews, lessons and extra notes provided by some participants.

4.11 Ethical issues

The University of Western Australia’s Human Research Committee approved the research approach reported in this thesis (approval number RA/4/1/4305).

Yin (2009) advised that the need to protect human participants derives from the fact that case studies, in particular, “are about contemporary human affairs” (p. 73). He pointed out that “the study of a contemporary phenomenon in its real-life context obligates you to important ethical practices akin to those followed in medical research” (p. 73).

The National Health and Medical Research Council (NHMRC) National Statement on Ethical Conduct in Human Research (2007), emphasised that:

The process of communicating information to participants and seeking their consent should not be merely a matter of satisfying a formal requirement. The aim is mutual understanding between researchers and participants. This aim requires an opportunity for participants to ask questions and to discuss the information and their decision with others if they wish. (p. 19)

It was for this reason that teachers in the professional learning group were approached individually to discuss the research proposal before being formally invited to participate by letter from the University of Western Australia (see Appendix 14). The proposed
research was also discussed with the headmaster who gave his written consent to use all data collected as part of a doctoral thesis.

It was also important that teachers understood that they were able to withdraw their consent and could decline to participate in the research at any point “without disadvantage as a result of their decision” (NHMRC, p. 21). This was made clear in writing to the participants in the professional learning group and indeed Mr Abbott chose to withdraw from the group when changes to the composition of his teaching class meant that he no longer wanted to try out differentiation strategies in the classroom.

Phase 1 of the research involved non-intervention, overt observation of normal classroom activities in the participating school. This observation was part of the regular job description of the Director of Pedagogy, who in this study was the researcher. For Phase 1, informed consent was obtained from the school headmaster to use de-identified data collected during the normal activities of the Director of Pedagogy for use in this doctoral research. A copy of the information and consent form provided to the headmaster is provided in Appendix 1. This approach to informed consent was considered most appropriate for Phase 1 because, according to the NHMRC National Health and Medical Research Council (NHMRC) National Statement on Ethical Conduct in Human Research (2007), Phase 1 research constituted ‘negligible risk research’.

The expression negligible risk research describes research in which there is no foreseeable risk of harm or discomfort; and any foreseeable risk is no more than inconvenience. (p. 16)

Chadwick (2001) described participating in any research as involving risk to the individuals concerned and it is clear that studies involving insider research may involve a higher degree of risk to individuals in terms of breaches of confidentiality than other methodologies. However, Phase 1 involved only ‘negligible risk’ given the fact that it comprised “no more than overt observation in school classrooms” (NHMRC, 2007, p. 57). In this case “The requirement for consent may sometimes be justifiably waived” (p. 23). The need to ensure that “there is an adequate plan to protect the confidentiality of data” (p. 24) was emphasised in the NHMRC guidelines. The researcher was at all times sensitive to the confidential status of the information gathered and informed.
Member checking was used to ensure that Phase 2 participants were comfortable with what had been written about them and their work before it was seen by others.

To ensure respect for the dignity and privacy of participants, it was necessary to protect the confidentiality and anonymity of the teachers involved. All necessary steps were taken to protect the privacy of participants by ensuring that they were not identifiable in the final, published thesis. A systematic method of codifying Phase 2 teachers’ names was constructed to ensure this anonymity and pseudonyms were used to refer to individual teachers.

Busher and Clarke (1990) suggested that fully ethical research is impossible to achieve, yet researchers have to make personal decisions regarding carrying out research to ensure their processes are as ethical as possible within the constraints of that research. In the study reported here, the underlying ethical principles of confidentiality, trustworthiness of the researcher and the dissemination of findings and outcomes were paramount and the researcher was confident that she maintained a high standard of ethical behaviour throughout the research.

### 4.12 Conclusion

This chapter provided an overview of the two phases of the study. The first established the patterns of differentiation within the case study school and the second involved the facilitation of a professional learning group of eight participant teachers. Data collection strategies including individual and focus group interviews, lesson observations, feedback and coaching were described and a detailed consideration of ethical issues provided. The development of a coding manual to enable analysis of the data was outlined. The next chapter, Chapter 5, describes the findings of Phase 1 of the research, establishing current differentiation practices at the school.
Chapter Five: Findings, Phase 1

5.1 Introduction

The aim of Phase 1 of the research was to establish the current situation at the school regarding differentiation of teaching in classrooms. This addressed Research Question 1 (regarding teachers’ beliefs about excellent pedagogy and differentiation in their subject area) and Research Question 2 (regarding teachers’ pedagogical practices with regard to differentiation in the classroom). This chapter provides the findings from the data collection that addressed these two research questions including trailing individual students and focus group interviews with heads of department and teachers. The following chapter, Chapter 6, provides findings from Phase 2 of the research.

The four research questions are reiterated below for the convenience of the reader.

1. What are teachers’ beliefs about excellent pedagogy and differentiation in their subject area?

2. What are teachers’ pedagogical practices with regard to differentiation in the classroom?

3. In what ways are teachers’ beliefs and classroom practices regarding differentiation congruent?

4. What impact do systematic lesson observation and subsequent feedback have on teachers’ beliefs and classroom practice regarding differentiation over time?

5.2 Trailing individual students

Two Year 8 students were selected as described in the method chapter and each trailed for one school day (six consecutive lessons) during March 2009. The students are referred to as ‘Student 1’ and ‘Student 2’ to ensure anonymity. As described in detail in section 4.3.1, the researcher followed each student to all six lessons during the observation day and took typed notes on the pre-prepared electronic form shown...
previously in Figure 6. The trailing aimed to sample the teaching and learning strategies experienced by the two students, to compare whether high achievers and low achieving students encountered different experiences during the school day.

5.2.1 Student 1

Student 1 was selected as a suitable candidate for observation because his Progressive Achievement Test (PAT) results in mathematics and reading as well as his verbal and quantitative results as assessed by the Australian Council for Educational Research (ACER) placed him in the bottom ten students in his year group. He also shared no teachers in common with the high ability student (Student 2) with whom his learning experiences would subsequently be compared and it was considered that viewing twelve different teachers during the observation day would give a more representative spread of the types of classes that all the boys at the school experienced. This particular day on the timetable was chosen because Student 1 spent an equal number of lessons in mixed ability classes (where boys were randomly allocated to classes and each class included boys of all ability levels in that subject) and support classes (in which boys of low ability similar to his, were placed together in an attempt to optimise their learning. These support classes tended to have fewer students in them).

Table 5 shows the type of classes and subjects that Student 1 attended during the day of observation. The lessons attended by Student 1 included English, geography, science and design and technology. English, mathematics and curriculum enrichment (a class which reinforces basic literacy skills) were the three classes Student 1 attended within a support class context. Geography, science and design and technology were the three subjects he attended within a mixed ability context.

Two teachers of the support classes specialise in teaching boys with special needs and the other teacher observed was seen to clearly cater for these students’ learning needs.
Table 5

*Six lessons of Student 1 on the day of observation*

<table>
<thead>
<tr>
<th>Period</th>
<th>Type of grouping</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Support Class</td>
<td>Curriculum Enrichment</td>
</tr>
<tr>
<td>2</td>
<td>Support Class</td>
<td>Mathematics</td>
</tr>
<tr>
<td>3</td>
<td>Mixed ability Class</td>
<td>Geography</td>
</tr>
<tr>
<td>4</td>
<td>Support Class</td>
<td>English</td>
</tr>
<tr>
<td>5</td>
<td>Mixed ability Class</td>
<td>Design and Technology</td>
</tr>
<tr>
<td>6</td>
<td>Mixed ability Class</td>
<td>Science</td>
</tr>
</tbody>
</table>

There were noticeable differences between Student 1’s learning experience in the mixed ability classes and in the support classes, where teaching was more clearly geared to the lower achieving students.

In the support classes, the field notes taken by the researcher were read multiple times and the different types of classes compared. Themes emerged from the data and were recorded. The following teaching strategies were observed:

- Explicit instructions for the simplest of tasks, delivered one at a time, with time spent waiting in between to ensure that the task had been understood and completed. (For example: “Get out a piece of paper”; “Now write the date and title at the top”; “File your work now”)
- Very high behavioural expectations of the students (no talking while the teacher was instructing, no chatting to peers whilst individual work was being completed)
- Tasks were broken down into smaller chunks (“Log out and write your name on the paper”)
- Closed questioning, with right or wrong answers (“Which words have capitals?” “Why?”)
- Modelling by the teacher of what is required
(For example working systematically through each step of a mathematics problem before setting practice ones)

- Positive, encouraging comments
  (“You can do this!” “Just do the first line of working out, then I’ll help you”; “Perfect!”; “You’ve improved!”; “Try a harder example, now - just do one step at a time”; “Aim for your personal best!”)

- Modelling of what constitutes a good answer

- The aims of the lesson or parts of the lesson were made explicit
  (“What’s the point of dictation? To practise writing, spelling, editing, punctuation”; “Set it out carefully because you won’t be able to do longer examples in your head!”)

One teacher was particularly explicit in her explanations of social rules, explaining, for example, why it is important that boys face the teacher when she is teaching them from the front of the classroom: “It doesn’t look as though you’re listening because you’re not looking at me”.

When implemented simultaneously, these strategies resulted in all the boys listening carefully and obviously trying to succeed. Student 1 actively marked his work as the teacher went through the answers and at one point put up his hand to offer a spelling – “I want to try!”.

In mixed ability classes, strategies that catered for low ability students were less frequently observed and noted in the researcher’s field notes. For example, the following themes emerged:

- Learning activities were less structured and less scaffolded
- The aims of the lessons were less clearly articulated (and in some cases not mentioned at all)
- Many instructions consisted of more than one step
- Instructions were often only spoken, with few or no visual cues or aids used
- The subject-specific vocabulary used was more complex and not always explained (words used in the humanities lesson, for example, included “archaeologists”, “hieroglyphics”, “mummification”, “ritual” and “Egyptian”)
There was less checking of answers and less frequent assessment for learning. Despite the large range of students’ achievement levels within these mixed ability classes, differentiation was not observed; there were no occasions when different learning tasks were offered or allocated to different students by the teacher and the boys were all expected to complete identical work.

The observation records made on each of Student 1’s lessons were used to ascertain how much time students were expected to spend listening as opposed to the time they spent on active learning tasks. Timings were included on the observation notes and the researcher used these to add up the total number of minutes the students spent listening or on other activities. It was anticipated that a low ability student such as Student 1 would be less able to learn through passive listening to a teacher for lengthy periods of time. The time spent listening versus time spent on other activities is summarised in Table 6.
Table 6
*A comparison of support and mixed ability classes’ time spent listening to the teacher versus time spent on active learning tasks*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Time spent listening (minutes)</th>
<th>Time spent on active learning tasks (minutes)</th>
<th>Support or mixed ability class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Enrichment</td>
<td>17</td>
<td>34</td>
<td>Support</td>
</tr>
<tr>
<td>Mathematics</td>
<td>13</td>
<td>38</td>
<td>Support</td>
</tr>
<tr>
<td>Humanities</td>
<td>21</td>
<td>26</td>
<td>Mixed ability</td>
</tr>
<tr>
<td>English</td>
<td>11</td>
<td>39</td>
<td>Support</td>
</tr>
<tr>
<td>Design and technology</td>
<td>6</td>
<td>38</td>
<td>Mixed ability</td>
</tr>
<tr>
<td>Science</td>
<td>21</td>
<td>22</td>
<td>Mixed ability</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>89</strong></td>
<td><strong>197</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table 7 shows a comparison of lesson time spent by Student 1 listening to the teacher as opposed to time directed towards active learning tasks.
Table 7
Percentage of lesson time spent listening versus doing active learning tasks – a comparison between support classes and mixed ability classes

<table>
<thead>
<tr>
<th></th>
<th>In support classes</th>
<th>In mixed ability classes</th>
<th>In mixed ability classes except D&amp;T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time spent listening to the teacher (%)</td>
<td>27 %</td>
<td>36 %</td>
<td>47 %</td>
</tr>
<tr>
<td>Time spent doing active learning tasks (%)</td>
<td>73 %</td>
<td>64 %</td>
<td>53 %</td>
</tr>
</tbody>
</table>

The mixed ability lessons involved considerably more time during which the boys were expected to listen to the teacher (36 percent of the lessons, as compared to 27 percent of the support class lessons). As a school subject, design and technology is inherently practical in nature. Although it was a mixed ability class, the practical approach necessarily adopted by the design and technology teacher meant that this lesson was inevitably a lesson of active learning. When the design and technology timings are removed from the statistics, the difference in activities undertaken by students becomes even more pronounced. In mixed ability classes other than design and technology, almost half the lesson time (47 percent) was spent listening to the teacher.

These pedagogical approaches led to Student 1 contributing significantly less to class discussions, asking fewer questions and not offering to read out loud as he had previously in support classes on that day. When a task such as a worksheet given out to the boys to read appeared to be too difficult for Student 1’s reading level, he was observed giving up on the task and just chatting quietly to the other boys during the time allocated to that activity. Table 8 shows a comparison of the contributions that Student 1 made in support classes versus when he was learning in a mixed ability
context. The contributions he made were counted from the notes made during the lesson observations when trailing the student for the day. One contribution was counted every time he publicly asked a question or answered a question posed to the whole class by the teacher and in this way a total number of contributions was calculated.

Table 8
A comparison of contributions made by Student 1 in support classes and mixed ability classes

<table>
<thead>
<tr>
<th></th>
<th>In support classes (3 lessons)</th>
<th>In mixed ability classes (3 lessons)</th>
<th>In mixed ability classes except D&amp;T (2 lessons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of contributions made by Student 1</td>
<td>8</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Number of teacher questions directed to Student 1</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 8 shows quantitative differences in the number of contributions made by Student 1 in the support classes compared to his contributions in the mixed ability classes. For the purposes of this analysis, a contribution was defined as the public asking of a question or answering of a question in class. Table 8 also shows the number of questions directed towards Student 1 by the teacher.

It is evident from Table 8 that Student 1 made more contributions when learning in a support class context than in a mixed ability class (eight contributions versus five). When the practical subject of design and technology is removed from the statistics, the difference is even more marked, as his eight contributions in the support classes contrast with only two made in the other mixed ability classes.

Student 1 also had more questions directed towards him by the teacher in the support classes rather than in the mixed ability lessons (three questions asked of him in the
support classes versus only one in the mixed ability lessons). This could be partly attributed to the fact that the support classes had fewer students in them; the support classes observed when trailing Student 1 had an average class size of seven students present on the day of observation, whereas the mixed ability classes observed on that day had an average class size of 19 students. This discrepancy in class size is something that is deliberately planned by the school, to ensure that the lower achieving students have the opportunity to participate actively in classes and to ensure that teachers have the time to cater for these boys’ learning needs during lessons. The result seems to show that Student 1 did indeed receive more personal attention in the support classes and he was able, for example, to contribute actively to his own learning by answering more questions from the teacher.

5.2.2 Student 2

Student 2 was selected as a suitable candidate for observation because his ACER (Australian Council for Educational Research) assessment results in mathematics, reading, verbal functioning and quantitative reasoning put him in the top ten students in his year group. He also shared no teachers in common with the low ability student (Student 1) with whom his learning experiences would subsequently be compared, thus achieving observation of a greater range of the type of teaching practised at the school.

At the time of the data collection, the school had separate, streamed support classes for low ability students in Year 8, but had no equivalent provision for high ability boys. Student 2, therefore, spent all six periods of the day of observation in mixed ability classes. Table 9 shows the subjects in which Student 2’s learning was observed.
Table 9

*Student 2’s six lessons on the day of observation*

<table>
<thead>
<tr>
<th>Period</th>
<th>Type of grouping</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mixed ability class</td>
<td>Japanese</td>
</tr>
<tr>
<td>2</td>
<td>Mixed ability class</td>
<td>English</td>
</tr>
<tr>
<td>3</td>
<td>Mixed ability class</td>
<td>Physical Education</td>
</tr>
<tr>
<td>4</td>
<td>Mixed ability class</td>
<td>Geography</td>
</tr>
<tr>
<td>5</td>
<td>Mixed ability class</td>
<td>Science</td>
</tr>
<tr>
<td>6</td>
<td>Mixed ability class</td>
<td>Art</td>
</tr>
</tbody>
</table>

As Table 9 illustrates, Student 2’s day involved one lesson of each of the core subjects of English and science, two lessons of physical education and geography and one lesson of each of his elective subjects of Japanese and art. All six of these lessons were taught to mixed ability classes.

An analysis of the time Student 2 and his classmates spent listening to the teacher as opposed to carrying out active learning tasks during that day’s lessons was made using the lesson observation notes written on that day. Table 10 shows this comparison of the six different lessons.
As Table 10 illustrates, Student 2 in his mixed ability classes spent approximately three times as long on active learning tasks as he was expected to spend listening to the teacher talking.

This is a similar percentage of time to that spent by Student 1 in active learning tasks when in support classes, but in marked contrast to the 53 percent of time Student 1 spent learning actively when in mixed ability theory classes.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Time spent listening (minutes)</th>
<th>Time spent on active learning tasks (minutes)</th>
<th>Support or mixed ability class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese</td>
<td>13</td>
<td>35</td>
<td>Mixed ability</td>
</tr>
<tr>
<td>English</td>
<td>9</td>
<td>31</td>
<td>Mixed ability</td>
</tr>
<tr>
<td>Physical Education</td>
<td>13</td>
<td>29</td>
<td>Mixed ability</td>
</tr>
<tr>
<td>Geography</td>
<td>20</td>
<td>27</td>
<td>Mixed ability</td>
</tr>
<tr>
<td>Science</td>
<td>4</td>
<td>43</td>
<td>Mixed ability</td>
</tr>
<tr>
<td>Art</td>
<td>7</td>
<td>34</td>
<td>Mixed ability</td>
</tr>
<tr>
<td><strong>Total time (minutes)</strong></td>
<td><strong>66</strong></td>
<td><strong>199</strong></td>
<td></td>
</tr>
<tr>
<td><strong>(%)</strong></td>
<td><strong>25</strong></td>
<td><strong>75</strong></td>
<td></td>
</tr>
</tbody>
</table>
Table 11

*A summary of contributions made by Student 2 during the observation day*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number of contributions made by Student 2</th>
<th>Number of teacher questions directed to Student 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>English</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Physical Education</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Geography</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Science</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Art</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

It was noticeable that Student 2 made few contributions (in terms of the public asking or answering of questions) during the observation day. Table 11 shows that he asked two questions (one each during Japanese and English) and that only one teacher asked him a question. It was noted that Student 2 was a relatively shy student and, despite his obvious high academic ability, he was not a student who actively sought attention or seemed to enjoy publicly voicing his opinions.

There were two learning experiences that appeared to actively engage Student 2 in his own learning – one involved an activity in the geography lesson observed, in which he was asked to work in a pair to find out the answers to a quiz about atlases. The task was given a gently competitive edge (the boys were challenged to see who could find all the correct answers before the end of the lesson) and involved using the index to answer various questions which necessitated referring to different sections of the atlas. Working with a peer, Student 2 was observed to take an active interest in his learning, using the index to look up key words and enthusiastically discussing the answers with his partner.
Although Student 2 spent all six periods of the day of observation in mixed ability classes, it was interesting to note that there was only one lesson where the teacher had planned different tasks for different ability boys. During the science lesson, Student 2 and his partner were clearly working on a more difficult science investigation involving the effect of different variables on seedling growth. Subsequent discussion with the teacher revealed that a range of investigations of varying difficulty had been offered to the whole class and Student 2 and his partner had actively chosen the most difficult one; although the teacher had provided the opportunity for a more challenging task, she had not in this instance directed them towards it.

This same teacher had brief instructions written on the whiteboard, which meant that she could work with small, different ability groups as appropriate and did not have to constantly stop learning activities and interrupt the boys’ thinking to give out instructions to the whole class. Different groups were therefore working at different rates and this appeared to be a highly successful strategy, with students observed to be on task and monitoring their own learning. The implications of the teaching practices experienced by students 1 and 2 are discussed in Chapter 7.

In summary, trailing the two students revealed that in mixed ability classes, the lower achieving student was expected to listen to the teacher for longer periods of time and contributed less to the lesson, asking and answering fewer questions. In the smaller support group, the lower achieving student contributed more to lessons and answered more questions from the teacher. The higher achieving student spent all six periods of the day of observation in mixed ability classes. He was expected to listen longer periods of time listening to the teacher talking and there was only one instance in which the teacher differentiated planning to give the opportunity for more challenging work.

5.3 Focus group discussions with heads of department and subject teachers

In 2009, focus group discussions were held with heads of department and subject teachers in English, languages, mathematics, design and technology, physical education, humanities, art and music. Details of the procedures involved, the interview protocols and the methods of analysis were described in Chapter 4.
To enable cross-referencing of quotations and to make the chain of evidence explicit, the code FGD was used to reference focus group discussions and the code HOD to denote individual interviews with heads of departments. The subject area is given after the data source code. For example, where a quotation is attributed to the English department during their focus group discussion, this is shown as FGD-ENG. Codes used for the subject areas are given in Figure 17. All subject areas were involved apart from the science department as the researcher had, until that point in time, been the head of science and was keen to allow the new incumbent time to settle into his role.

<table>
<thead>
<tr>
<th>Subject area data source</th>
<th>Code</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>ENG</td>
<td>1</td>
</tr>
<tr>
<td>Languages</td>
<td>LAN</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics</td>
<td>MAT</td>
<td>1</td>
</tr>
<tr>
<td>Design and Technology</td>
<td>DAT</td>
<td>1</td>
</tr>
<tr>
<td>Physical Education</td>
<td>PHY</td>
<td>1</td>
</tr>
<tr>
<td>Humanities</td>
<td>HUM</td>
<td>1</td>
</tr>
<tr>
<td>Art</td>
<td>ART</td>
<td>1</td>
</tr>
<tr>
<td>Music</td>
<td>MUS</td>
<td>1</td>
</tr>
</tbody>
</table>

*Figure 17.* Subject area data sources and allocated codes.

Observation notes taken at the time of focus group discussions with heads of department and their teachers were read multiple times until themes emerged. A thematic analysis of these field notes was constructed, with a focus on comparing and contrasting the different departments, looking for common themes and idiosyncratic ideas.

5.3.1 Teachers’ beliefs regarding the importance of their subject

Many heads of department and teachers described in detail reasons for the importance of their subject. For example, communication was seen as integral to the study of
English and both the head of English and teachers within that subject area spoke about the importance of reading for pleasure, the need to be able to represent oneself and why deconstruction of the written word is vital if citizens are to be able to work out the intent of political or advertising messages.

Languages teachers spoke about opening students’ minds to other cultures and indeed to a more global culture as well as pointing out the advantages of learning about one’s own native language. Such practical reasons were frequently given as justification of various subjects, for example the employment and travel opportunities afforded by studying a language, or the ability to represent oneself and make oneself understood as learnt by students of English. Other practical reasons included dealing effectively with personal finances, building confidence and providing an intellectual challenge. One head of department also described his subject area as providing the ideal opportunity to counter “some arrant nonsense” (HOD-HUM) in the beliefs of the boys.

Less tangible reasons for studying different subjects also were described at length and there were many instances where teachers were passionate advocates of their subject area, eloquently describing meaningful justifications of their own subject. English teachers talked about developing ethical values and ways of behaving; physical education was discussed in terms of the importance of contributing to sporting clubs in the community in later life and developing healthy habits that would last long beyond the school years. Mathematics teachers spoke of the “beauty and power” of mathematics and how it is “the ultimate philosophy” (FGD-MAT); humanities teachers spoke of opening students’ minds and music teachers talked about the emotions involved in producing and understanding music.

Both teachers and teacher leaders expressed clear views about what makes their subject important. They also were adept at describing the most enjoyable aspects of teaching their subject, which were remarkably similar across the subject areas. Many listed “those light bulb moments”; the fact that the students are “funny and respond well” and how the students take pride in their work as professionally rewarding. Others spoke about the flexibility involved in their job, the constant variety involved in teaching their subject and the collegiality they experienced within their department. Many talked of the engagement and enlightenment of the boys; the way that teachers can learn from the
students and one teacher described the feeling when the students are so “excited to be there you have to kick them out at the end of a lesson” (HOD-ART). Similarly, teachers were keen to describe the skills students developed in their subject - problem solving, logical thinking, independent thought and analysis and synthesis of ideas.

When teachers and heads of department were describing differentiation, the term itself was rarely mentioned. As a challenging issue that might well be considered pertinent to teaching and learning, it was not mentioned at all in answer to the question regarding “What are the most difficult aspects of teaching your subject”, suggesting that it is not immediately seen as one of the prominent issues involved in teaching in this school. The idea of catering for different abilities of students was brought up, however, when teachers were discussing what might be viewed when observing their lessons.

In mathematics, teachers talked about differences in teaching and learning between support groups versus mainstream classes as well as the use of practical activities with less able students, but nothing was mentioned about differentiation within a mixed ability class other than one teacher suggesting that sometimes they used “Better boys teaching peers (weaker ones)” and another mentioning the fact that they “see a variety of progress within the same class – some have done lots of maths, some are just starting out” (FGD-MAT). The head of department suggested that an observer “May see some differentiation within a class – strugglers may get extra help, or teachers may set different questions for different boys within the lesson” (HOD-MAT).

One teacher suggested that an observer would see teachers “catering for different types of learners – visual and auditory” (FGD-HUM) but no staff discussed any other aspects of differentiation. In art, it was said that the “less skilled kids need more scaffolding” but the only other subject area in which differentiation was explicitly mentioned was physical education. A swimming lesson was described in which swimmers were split up into three lanes, with different expectations given to each lane – “you can do this for every drill you set up” (FGD-PHY). The teacher mentioned specifically the fact that the boys are not streamed by ability in this subject, so they have to differentiate and described putting students into different ability groups within a class as well as doing the same skill with different challenges for each skill level.
Although differentiation as an issue was not frequently mentioned, some indications of possible reasons why teachers do not regularly differentiate were implied. Some teachers, for example, suggested that they “have to be more didactic” than they might like, “to keep the momentum of the assessment-driven programme” (FGD-MAT) and a humanities teacher described the “time constraints” that made teaching and learning “difficult, with so much content in the new course of study” (FGD-HUM).

In terms of Research Question 1, the focus group interviews with heads of department and teachers aimed to investigate their beliefs regarding pedagogy and differentiation and the findings described suggested that they do not spontaneously rate differentiation as a significant issue in their subject area.

5.3.2 Teachers’ beliefs regarding what constitutes excellent teaching in their subject

Research Question 1 also aimed to explored teachers’ views on excellent teaching. The data source for this was the departmental focus group discussions and a department by department analysis was conducted in the same manner as described previously.

Teachers of English talked about the need to structure lessons differently depending on where they were in the topic. They thought that lower school classes would include more development of reading, writing and listening skills through modelling, scaffolding and reading to the class, whereas upper school classes would involve more discussion and include the development of sophisticated analytical skills to enable students to interpret the different meanings of various forms of text. English teachers’ comments frequently referred to the need to provide a diversity of learning experiences for their students and included the need to try to vary activities as well as content over a period of time (FGD-ENG).

Languages teachers stated that excellent language lessons would involve students experimenting with the target language as much as possible and using a range of vocabulary in different situations to reinforce key language structures. Some were keen to point out that the lessons should be noisy if the boys are effectively using the target language to speak a lot. Other teachers spoke about lessons including different
elements of the four key skill areas of speaking, listening, reading and writing. All successful lessons would involve the boys developing their use of the target language (FGD-LAN).

Teachers of mathematics reported that excellent teaching would involve immediate feedback to students and enlightenment on their part. Successful students would think logically, be able to solve complex problems and think for themselves. Some mathematics teachers spoke of student-centred learning and discovery being more evident in their subject than in others and mentioned their students’ love of the subject. Teaching and learning strategies described included didactic, teacher-led learning, discussion, worked examples, problem-solving, higher achieving students teaching lower achieving peers and much informal, collaborative learning taking place. Several teachers mentioned the need for time to be provided to practise a concept and explained that in many lessons the teacher would be seen to be teaching ‘traditionally’ – not because of their age, but because of the nature of the subject. (FGD-MAT).

Humanities teachers described discussions as very important in their subject area and reported interactions with students as most valuable. Some staff said that bringing in current applications from the world around them brought the subject alive and several mentioned the pleasure of students debating with the teacher. Many teaching and learning strategies were listed as suitable for humanities lessons, including discussion based learning, data analysis, statistical analysis, project work, learning how to research, presentation skills and group work. The fact that the large humanities department encompasses more individual subject areas than any other department may account for their ability to list more teaching and learning strategies than the other departments within the school. (FGD-HUM).

Art teachers described the need for teachers to see initiative in an art lesson. One described the first lesson as consisting of demonstrating techniques in a ceramics or sculpture topic, followed by moving straight into the practical activity. Another art teacher described a similar process of teacher directed beginnings to a project, in which the teacher attempted to gauge the students’ skill level and then engage them in a learning activity from which they could experience success. The need to address bad habits learnt previously and to re-teach different ways of doing things was described.
Other than the one mention of gauging students’ current skill levels, there were no descriptions of differentiation strategies (FGD-ART).

These findings suggest that differentiation as a pedagogical strategy is not something that teachers at this school considered an essential aspect of excellent teaching.

5.3.3 Teachers’ beliefs regarding the most enjoyable aspects of teaching their subject

Asking this question prompted the provision of lengthy lists of reasons why their subject was so enjoyable to teach. Details were spontaneously given by groups of teachers within departments and reflected both their enthusiasm for teaching and a high level of commitment to their students. As in the previous analyses, themes emerged through repeated reading of field notes taken at the time of the focus group discussions.

The most common theme mentioned was that of the light bulb or ‘Aha’ moment and the reward that teachers felt when students made a leap in conceptual understanding. One music teacher described her lasting memory of Year 7 students learning how to conduct in 7/4 time (a particularly difficult skill) and the students “walking out of the room doing it to recess” (FGD-MUS). Mathematics teachers spoke of students’ “enlightenment” and times when students spotted patterns and told their teacher about them. Three individual languages teachers separately reported “The light bulb coming on when using the target language” and spoke of “The joy when the boys are pleased they ‘got’ something” (FGD-LAN).

The development of subject-specific skills also was reported by teachers in a number of subject areas as particularly enjoyable for teachers to witness, for example in music the improvement in orchestral conducting was described with great pleasure and physical education teachers reported enjoyment from witnessing the development of the boys who “come in tiny and then we see them in Year 10 having a good time in the pool” (FGD-PHY). Mathematics teachers spoke of their subject lending itself to “student-centred stuff and discovery more than other subjects” (FGD-MAT) and English teachers reported the great “freedom and variety” (FGD-ENG) afforded by their subject area.
Pure enjoyment and pride in their work also featured as something that teachers appreciated and which they said gave them great pleasure in their daily work. Art teachers described their subject as “fun” (FGD-ART); a mathematics teacher reported that “Boys always want to do maths – want to get into maths – they love the subject” (FGD-MAT) and physical education teachers reported boys normally enjoying sport and being “into it” (FGD-PHY). An English teacher was impressed that she was “being paid to read! Paid to do what you like to do!” (FGD-ENG) and clearly considered this a privilege. Several teachers of practical subjects spoke of the “joy of seeing boys make something they love” (FGD-ART) and seeing students who were “so proud of their work” (FGD-ART). One design and technology teacher reported that his greatest enjoyment in teaching was “to see the joy on a student’s face – it’s different for each boy – when they’ve made something; to see something beautiful or even not good as long as they appreciate it” (FGD-DAT).

Working in an atmosphere of collegiality within the department was mentioned by a number of teachers as an important causal factor for their enjoyment of teaching. English teachers described colleagues all sharing resources and the “nice department atmosphere” (FGD-ENG) whilst mathematics teachers described collegiality in the department as “amazing” and described themselves as a “good team” (FGD-MAT). The physical education department saw itself as very close – “the tightest department in the school” (FGD-PHY) and reported frequently talking about their teaching and regularly giving feedback to each other. They explained that this was as a direct result of seeing each other teach every day; there are no closed classroom doors or indeed walls when a teacher implements their lesson plan alongside three other teachers on a pitch or field.

Teaching academically high achieving students was listed as something that gave many teachers enjoyment, regardless of the subject they taught. The prospect of teaching such students was reported as “keeping the teacher’s brain going” (FGD-MAT) by one teacher and several other teachers described the enjoyment of highly able students approaching something completely differently from the teacher or the “elegance in students’ answers” that gave them great pleasure (FGD-MAT). One humanities teacher reported that their favourite type of lesson was when a student “opened the teacher’s
mind to a new argument or concept” (FGD-HUM) and an art teacher described the fact that “the teacher can learn from the students, too” (FGD-ART).

The fact that teaching is not entirely theoretical but involves talking “about life and real stuff” (FGD-ENG) was described as giving several teachers enjoyment. Teachers reported talking about “current affairs, their own relationships or issues” and how their students “can relate to you – they write about important things and talk to their teacher” (FGD-ENG). “Bringing in current applications from the world around them brings it alive” (FGD-HUM) was how one commerce teacher described this ability to relate their subject area to real life and a mathematics teacher also commented that “changing the state of kids” (FGD-MAT) was what provided him with enjoyment in his work.

The variety and changes involved in teaching up to date versions of their subject area also were reported as a source of enjoyment by a number of teachers in the humanities department, despite not being commented on by teachers in any other subject areas. For example, one teacher mentioned that “The theories in humanities are the same, but there are always different contexts” (FGD-HUM). Another said that they gained enjoyment from the fact that the subject is “wide ranging – I can do lots of good teaching methods – I don’t have to sit there and use text all the time, there are lots of music, videos, etc” (FGD-HUM). As one humanities teacher put it:

Geography is forever changing – kids detect it when you show something that’s out of date and explain how it’s changed over the past twelve months – there’s an excitement of change, particularly for boys that’s important. (FGD-HUM)

In summary, there were several aspects of teaching that provided enjoyment for teachers in their work and many of these were common to the different subject areas. In terms of teaching students of different achievement levels, teachers’ comments included the benefits of teaching very bright pupils as well as their enjoyment of experiencing all students gain enlightenment, regardless of their ability. The main themes reported as providing enjoyment for teachers were the development of subject-specific skills, collegiality within departments, the variety involved in the profession and the ability to teach real-life issues, not just subject content.
5.3.4 Teachers’ beliefs regarding the most difficult aspects of teaching their subject

Reading the observation notes made during the focus group discussions multiple times over several weeks meant that themes emerged from the data. In terms of what made teaching their subject area difficult, it was perhaps not surprising that the issues described by teachers in answer to this question were more specifically related to their own subject area than were their answers to the previous question, regarding which aspects of teaching they found enjoyable.

For example, not having enough space for the number of students present to play outside sport could only be attributed to the physical education department, as could their mention of the difficulty in motivating themselves to “get out in it” when temperatures reached 40 degrees Celsius or when it was “raining and freezing” in the winter (FGD-PHY).

Marking was universally reported as the most difficult part of being an English teacher and staff described spending “ten hours of marking for an assessment that lasts one”; understanding that “written individual feedback is so important but so time-consuming” but stating that “Sundays are depressing – saving up marking for the weekend” (FGD-ENG). A teacher who had previously taught at other schools mentioned that “Marking is more intensive here – extremely time-consuming” (FGD-ENG).

Marking issues were reported as difficult by art teachers but in a slightly different context; English teachers had described the sheer volume of marking as causing them difficulties but art teachers described the subjectivity of marking work in their subject area. “Whether you like the work or not is irrelevant; you have to look at composition, etc”; “It’s not about the final work, but a series of drawings/experiments/stages on the way – you mark how they interpret it in their idea development” (FGD-ART). One teacher pointed out that they have to “have a marking key to follow or else it becomes quite subjective” (FGD-ART). A humanities teacher’s comments echoed the challenge of subjective marking, reporting that there is “no accepted answer to lots of things – you can all teach whatever you do and end up in a different place”. They commented that this “makes it interesting but logistically difficult” and related this to marking, stating
that “you could theoretically turn up any answer and get credited for it – it makes marking guides difficult” (FGD-HUM).

Other issues reported did, however, cross subject boundaries and behaviour management was one such issue. The difficulty of preventing students talking excessively or inappropriately in class was listed by several English teachers. “Boys have a lot of opinions and like talking” (FGD-ENG). Teachers described such dilemmas as “you don’t want to forget the reticent ones” and “There’s so much group discussion, you have to negotiate so many different ideas”. One English teacher put it very simply – “they talk too much” (FGD-ENG).

Student gender differences were mentioned by one teacher who had previously taught in a girls’ school and who described the situation with their current (male) students as “sometimes it feels like talking to a brick wall”. They went on to explain “older boys may just look at the teacher; girls nod, smile, feed back more – it can be disconcerting for the teacher” (FGD-ENG).

Other behaviour management issues mentioned in practical subjects included the classroom management of students “moving all around” during the lesson and “the routine of clearing up” (FGD-ART). Only one teacher mentioned the difficulty of “teaching kids that genuinely don’t want to learn and won’t work with you” (FGD-MAT).

Several comments referred to students’ behaviours that were not conducive to classroom success. For example, students who “don’t always listen to the recommendations of the teacher – this leads to struggles, not happiness” and those who “just don’t do enough work” (FGD-MAT) made the job difficult for some mathematics teachers, who explained that in their subject area, they “have to rely on the fact that the boys have to do homework to keep up with the course” (FGD-MAT). A music teacher also commented that their students’ “approach to the subject is not always dedicated” (FGD-MUS). Students were held responsible for poor organisational skills, such as the teacher who described it as “frustrating when you’ve planned a lesson around using an atlas and they haven’t brought it” (FGD-HUM). Convincing students to bring their diaries to lessons was mentioned as a difficulty in music – “because it’s an elective [subject], they assume they can bring nothing” (FGD-MUS).
Retaining numbers of students in classes when subjects are no longer compulsory in the senior years of secondary school was reported as a difficulty by a number of teachers in different subject areas. The nature of the school meant that many students tended to choose academic science subjects, whether or not they were the most appropriate choice for them. This was bemoaned by several humanities teachers who also mentioned the reduced numbers of students in their classes since the range of new subjects offered in the school had increased. One humanities teacher commented that if the students had been effectively taught and they had enjoyed the subject but still didn’t choose it in Years 11 and 12, then the department had done well (FGD-HUM).

Parents and teacher colleagues were reported as the most difficult aspect of teaching by teachers in mathematics, languages and arts subjects. Languages teachers commented that it was “frustrating to have to ‘sell’ your own subject because it’s not recognised as valid by others” (FGD-LAN) and complained about “the negative perception of languages from teachers and parents”. Art teachers mentioned the fact that they have to both “educate the community of the value of their boys taking part in the arts” and “earn the respect of the other staff” (FGD-ART). In a similar vein, parental expectations were described as “different” by mathematics teachers, who reported that parents “expect them to do maths well” (FGD-MAT).

Given the focus of this study on differentiation, it was interesting that the only teachers to mention the range of ability of the students in their classes as something that made teaching and learning more difficult were those in the mathematics department. One commented that the Year 8 students “have very different maths backgrounds when they arrive” and another described the “complete mixed ability of students in class” as challenging (FGD-MAT). The mathematics department was the source of many reports of poor academic backgrounds experienced when students arrived at the school in Year 8. Comments included the lack of realistic expectations of students (“Some come from schools where everyone is the top of the class”; “Some arrive without knowing even their tables”) and the diversity of achievement levels of students (“Some come from the top ten schools”; “Some kids don’t like dealing with the abstract – they need concrete things”). Some teachers stated that the primary school teaching of mathematics was the cause of much of this lack of mathematical background – their comments included:
“Maths is not particularly rigorous in some primary schools”; “Some primary schools don’t have experience of ever sitting a test” and “Some feeder schools lack a structured maths curriculum” (FGD-MAT).

In terms of struggling students, humanities teachers described their battles as they constantly had to “combat weak literacy skills in the students – some can’t read, write or listen” (FGD-HUM) and one languages teacher commented that “the compulsory language is hard for some strugglers” (FGD-LAN).

Humanities teachers, who had listed the variety and change in their subject area as one of the things they enjoyed most, also described the constant change in their subject as a difficulty, reporting that they had “to be abreast of what’s going on all the time” because “it’s constantly changing”. One teacher mentioned that they “can’t keep teaching the same thing – there are variations since last year” (FGD-HUM).

In summary, the main themes that emerged regarding teachers’ beliefs about the most difficult aspects of teaching were marking, student behaviour, student retention and the need to increase parent and colleague awareness of the importance of certain subject areas. Only in mathematics was the issue of a wide range of student ability reported as one of the most difficult aspects of teaching.

5.4 Observation of teachers and individual feedback

Addressing Research Question 2, “What are teachers’ pedagogical practices with regard to differentiation in the classroom?” involved the observation of teachers in their classrooms using the observational protocol shown in Figure 9. One hundred and forty five lessons were observed in different subject areas and with different ages of students in the senior school and 29 in the preparatory school. It was noted that in only three lessons was evidence observed of any pre-planned, differentiated teaching. In one case, students had been given the choice of easier or more challenging tasks and in two others, the students had been given tasks that the teacher decided were appropriate for their abilities.
5.5 Conclusion

This chapter reported the findings of Phase 1 of the research, which investigated the current situation at the school regarding differentiation of teaching in classrooms. Trailing two students at both ends of the ability spectrum revealed differences between lessons taught to mixed ability groups and those taught to a support class of lower achieving students. Teaching in the support class was clearly geared more towards the lower achieving students, with strategies such as giving brief, explicit instructions, chunking tasks into shorter sections and frequent positive encouragement were observed. The mixed ability classes were less structured and scaffolded, with more lengthy verbal instructions, more complex subject-specific vocabulary and longer periods of time in which students were expected to listen to the teacher.

Findings from the focus group interviews with teachers and heads of department showed that teachers rarely mentioned differentiation when discussing difficult aspects of their teaching in mixed ability classes, with the exception of some comments from teachers of mathematics who mentioned the very different mathematical backgrounds of students arriving from different primary schools.

In conclusion, differentiation was not a common pedagogical practice within classrooms and differentiation was not observed as a regular feature of many classrooms at the school.
Chapter Six: Findings, Phase 2

The professional learning group

6.1 Introduction

This chapter tells the stories of the teachers chosen to be included as embedded units of analysis, or embedded case studies, within the case study school. Eight teachers were involved in the professional learning group and five of these eight were selected for detailed reporting in this thesis. One of the aims of the research was to develop understanding of leadership learning and differentiation, to contribute to the literature available. For this to be achieved, it was important to include in-depth detail about a range of findings, both successful and unsuccessful, involving different teachers. It was essential that in-depth, embedded case studies included examples of teachers from primary and secondary classrooms as well as male and female teachers, to enable a wide range of readers to be able to identify with the accounts provided and to facilitate transferability of the findings.

To this end, five teachers of the original eight were chosen for inclusion. The five teachers were chosen as a result of the richness of data generated when considering their codings and the diversity of their responses (a summary of the coding findings can be seen in Appendix 16). The findings from the remaining three teachers (Mr O’Connor, Mr Edwards and Dr Oliver) added little extra insight to the findings and were therefore not included as embedded case studies.

Ms Lacey (CL - a secondary English teacher) was chosen to illustrate a practitioner who was already using differentiation effectively and who continued to develop and improve her practice. Mr Evans (HE - a secondary languages teacher) was included as an example of a teacher who was determined to introduce differentiation in a very personal form – an idea he reported wanting to try for a while. His account provided interest due to his partial success in introducing a new strategy in his classroom despite his claims that he had failed. His thoughtful and constructive suggestions regarding how leaders can support teachers in their efforts to develop differentiated classroom practice also contributed to the discussion.
Mr Ashwell (MA - a secondary mathematics teacher) was included as an example of a relatively new teacher with an impressive ability to reflect on his own practice. He undoubtedly showed the most change and growth during the period of the research and provided a case study of someone who was keen to develop their own teaching skills and successful in doing so. Ms Hague (CH - a primary level teacher) – reported always having differentiated her teaching and the students’ learning, as happens frequently in primary classrooms. She continued to differentiate what she planned to teach and consequently reported little change in her practice. Mr Abbot is included as a case study because he was very sceptical about differentiation from the start of the project. Mr Abbot’s initially expressed beliefs that differentiation was not possible within a mixed ability classroom were borne out by his actions (removing himself from the project) and his lack of implementation of any form of differentiation within his own teaching.

Each teacher chosen as an embedded case study was given a moniker to denote the characteristic aspect of their practice which had led to their inclusion in the group. Ms Lacey was labelled ‘The Effective Differentiator’, Mr Evans ‘The Determined Differentiator’, Mr Abbot ‘The Sceptical Differentiator’, Mr Ashwell ‘The Reflective Differentiator’ and Ms Hague ‘The Practical Differentiator’. A summary of the relevant characteristics of the eight teachers is provided in Table 12.
Table 12 - Pen portraits - summary details of eight teachers involved in the differentiation professional learning group

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Age</th>
<th>Sex</th>
<th>Subject</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms Lacey (CL)</td>
<td>26 - 30 years</td>
<td>F</td>
<td>English</td>
<td>Ms Lacey is a young, relatively inexperienced yet highly competent English teacher who is enthusiastic about differentiation and keen to try out new things in her classroom. She is referred to as ‘The Effective Differentiator’.</td>
</tr>
<tr>
<td>Mr Evans (HE)</td>
<td>31 - 36 years</td>
<td>M</td>
<td>Languages</td>
<td>Mr Evans is an experienced languages teacher who is also keen to try out new ideas in his classroom; his idea is going to be used as the basis for a conference presentation. He is referred to as ‘The Determined Differentiator’.</td>
</tr>
<tr>
<td>Mr Ashwell (MA)</td>
<td>26 - 30 years</td>
<td>M</td>
<td>Mathematics</td>
<td>Mr Ashwell is a new member of the mathematics staff with an interest in gifted and talented students. He is keen to try out some new strategies to differentiate his classroom teaching, coming as he does from a school where the students are taught in more homogenous ability groupings than in the research school, where groups are mainly of mixed ability. He is referred to as ‘The Reflective Differentiator’.</td>
</tr>
<tr>
<td>Mr O’Connor</td>
<td>46 - 50 years</td>
<td>M</td>
<td>Mathematics</td>
<td>Mr O’Connor is an experienced mathematics teacher who describes himself as a constructivist, always going back to what the students know.</td>
</tr>
<tr>
<td>Ms Hague (CH)</td>
<td>26 - 30 years</td>
<td>F</td>
<td>Year 3</td>
<td>Ms Hague is a young primary school teacher who aims to set up “proper literacy centres” to cater for the very different abilities of the boys in her class. She is referred to as ‘The Practical Differentiator’.</td>
</tr>
<tr>
<td>Mr Edwards</td>
<td>51 - 56 years</td>
<td>M</td>
<td>Year 5</td>
<td>Mr Edwards is a highly experienced teacher who trained as a physical education teacher and now specializes in primary education. He follows the “four Fs of being fair, friendly, fun and firm”.</td>
</tr>
<tr>
<td>Dr Oliver</td>
<td>31 - 36 years</td>
<td>F</td>
<td>Physics</td>
<td>Dr Oliver is a science teacher specialising in physics. She plans to “look at differentiation in revision”.</td>
</tr>
<tr>
<td>Mr Abbot (GA)</td>
<td>40 - 45 years</td>
<td>M</td>
<td>Humanities</td>
<td>Mr Abbot is a humanities teacher specialising in history. He is the most sceptical of the group in terms of the practicalities of differentiation in the classroom and whether it is possible in his subject area. He is referred to as ‘The Sceptical Differentiator’.</td>
</tr>
</tbody>
</table>
6.1.1 Data Sources

Throughout this chapter a data trail is established through codes that indicate the data sources for any claims and assertions. The codes also enabled cross-referencing of quotations and made the chain of evidence explicit. Descriptions of these codes are provided in Figure 18.

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Code</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus group discussion within subject departments</td>
<td>FGD</td>
<td>1</td>
</tr>
<tr>
<td>Individual interviews with heads of departments</td>
<td>HOD</td>
<td>1</td>
</tr>
<tr>
<td>Initial individual interviews with teachers in the PLG</td>
<td>III</td>
<td>2</td>
</tr>
<tr>
<td>Final individual interviews with teachers in the PLG</td>
<td>FII</td>
<td>2</td>
</tr>
<tr>
<td>Initial group interviews with teachers in the PLG</td>
<td>IGI</td>
<td>2</td>
</tr>
<tr>
<td>Final group interviews with teachers in the PLG</td>
<td>FGI</td>
<td>2</td>
</tr>
<tr>
<td>Lesson observation notes with teachers in the PLG</td>
<td>LON</td>
<td>2</td>
</tr>
<tr>
<td>Extra notes provided by some teachers in the PLG</td>
<td>EN</td>
<td>2</td>
</tr>
<tr>
<td>Pen portrait notes gathered throughout the research</td>
<td>PP</td>
<td>2</td>
</tr>
</tbody>
</table>

*Figure 18. Data sources and allocated codes in Phases 1 and 2.*

In the case of individual teachers from the professional learning group, their initials are given after the data source code. For example, where a quotation is attributed to the teacher Mr Ashwell (MA) during his final individual interview, this is shown as FII-MA. Data used to develop the pen portraits were gathered at various points during the research as teachers discussed their training, their background in education and their thoughts about differentiation in particular.
6.2 Ms Lacey – ‘The Effective Differentiator’

6.2.1 Pen Portrait – views on differentiation

At the time of data collection, Ms Lacey was a 26 year old English teacher who had taught only at this school since she qualified three years previously. She described herself as a “constructivist”; someone who encouraged student-centred learning and said that she modelled and scaffolded her teaching a lot for her students. She reported taking pride in marking significant numbers of draft essays and practice essays and providing as much individual feedback to her students as possible (IGI-CL).

Ms Lacey explained that her teaching style involved a mixture of teacher input aiming to give the students the knowledge they need, followed by the provision of questions which cover both low and high order thinking. These questions lead the students towards various tasks with the purpose of clarifying what they have learnt. An extract from Ms Lacey’s curriculum vitae succinctly describes what she aims to do in her classroom:

My objective as an English teacher is to inspire, motivate and empower students to reach their full potential. I aim to provide a safe and nurturing environment in the classroom and inspire my students to value learning. I constantly scaffold and model tasks for my students and give them confidence to achieve their goals. This encourages them to become autonomous, reflective and self-motivated learners.

Ms Lacey said that her best qualities include an obvious passion for her subject and an understanding that encouraging her students to enjoy what they’re doing as much as possible and to value improvement rather than achievement is essential. She explained that she tries to ask questions such as “Have you got better?” and “What have you learnt?”, to encourage realistic expectations. This is especially true of the less able students in the support class, where she pointed out that it is important that they should be happy with their achievements when they have shown improvement. When these boys pass, she said that she feels as though she has succeeded. With the more able high achievers, she explained that she encourages them to enjoy what they’re doing and to learn for the sake of intrinsic values rather than for the mark they are given. She reflected that she has “done that pretty well this year”, with lots of informal assessments
such as minor novel tasks, the quality of which she described as “incredible”. She was impressed by her students this year who “have wanted to work and wanted to do it well” (PP-CL).

During the interview at the beginning of the research project, Ms Lacey shared her understanding of the term differentiation:

“catering for students of different abilities”
“ensuring each is challenged but doesn’t fall behind”.

She explained that, in her view, differentiation involves both assessments set by the teacher and questions posed in a classroom setting. It also involves setting different tasks for students, ensuring that the higher ability students receive tasks that are more challenging and may involve extra work (III-CL).

Ms Lacey argued that differentiation is “more important for the extremes” and vital for the highest and lowest achieving students. She explained that:

the middle ones generally do OK – they can actually benefit from the higher order questions and learn from more able ones. But the more able students can become complacent if they’re not challenged, and the weaker students get more embarrassed by falling behind and getting ignored. (III-CL)

Ms Lacey reported using differentiation most in the support class, which she described as “a really interesting class with different learning problems. Some are fantastic orally and therefore need challenging orally, but have difficulties with written expression”. She explained her view that there are boys in the support class that may have been misplaced and should not be within that group. She reported understanding that these students will move out into mainstream English classes next year, so it is vital that she ensures they continue learning this year. Ms Lacey described some students who work much more quickly than others and explained that she sees her job as being about making sure they have something to do, but not rushing those who need more time. She reflected that she differentiates a lot “without realising it” (III-CL).

Ms Lacey expressed her belief that the extra work required on the part of the teacher was what stopped some teachers differentiating. She explained that not only does the teacher have to be attentive all the time, physically monitoring what the students are
writing, but they also have to be in control of behaviour management as well. In terms of extra work, Ms Lacey suggested that differentiation should be applied to homework tasks and explained that this may require more marking from the teacher as well as more contact with parents – both of which can prove difficult given the busy lives of teachers. Ms Lacey said that the extra time required means that some teachers feel differentiating students’ learning is unrealistic when they “already have too much on their plate”. She did say, however, that it can be done very well in support classes where there are significantly fewer students per class (generally 11 or 12). With a high achieving, top set class, she said that teachers:

  don’t need to think about differentiation nearly as much because the students are streamed and you can teach for the highest student, really. I definitely don’t do it with 27 students in that top set class. (III-CL)

In upper school (Years 11 and 12), Ms Lacey explained that because the focus is much more on working towards an examination, there is much less scope for teachers to give different assessments or activities to students. She further elaborated that given that students study the subjects of their choice in upper school, there is the option for them to opt into what are effectively different streams for easier or more difficult courses (III-CL).

At the start of the research project, Ms Lacey commented that she planned to read the Tomlinson (2010) book on differentiation. She also planned to allow a choice of different novels for her Year 9 class to enable the more able students to be challenged. She had “a few really bright ones in there” and was anticipating an interesting year with the class. She planned also to have a creative task for the boys to do as homework each week, involving many different activities such as “writing from the perspective of a tennis ball at the Australian Open”, aiming to encourage the boys to write more. There would be no strict guidelines or criteria and the task would be very open. Ms Lacey anticipated that this would be effective because:

  Those who enjoy English will do very well, whereas the strugglers will write four lines and hand it in. It will be interesting to see how these homework tasks improve during the year, from doing the extra work rather than focussing on assessments.
She explained that many parents had spoken to her at parent-teacher nights about how their children had, for the first time, talked about their English homework and how it was different because there were no set criteria (III-CL).

Ms Lacey also explained her goal to do more group work in class, sometimes grouping boys according to ability without making it obvious and sometimes deliberately constructing mixed ability groups. She imagined that using different groupings would be an effective way “to make sure everyone’s working” – because tasks that involved participation from a number of students would mean that the lower-achieving boys would be obliged to participate and would therefore not be able to get away with a lack of effort, which she explained had previously been “a big part of the problem”. Ms Lacey concluded that “believing in themselves is such a big thing for boys” (III-CL).

Of all the teachers in the professional learning group, Ms Lacey was best able to articulate her ideas regarding differentiation in the classroom despite her relative lack of teaching experience. She discussed the greatest total number of strategies (eleven differentiation strategies were mentioned in her initial individual interview) and suggested the most useful advice for teachers, explaining that she had already liaised with colleagues to seek advice on some aspects of her plans. She talked about the advantages of differentiating in the classroom, suggesting the benefits of “creating autonomous learning at an early age” and linking it to boys “wanting to do more [work]” (EN-CL). The sole challenge she mentioned that might hinder the differentiation of her teaching was the challenge of extra work (CXW).

At the initial group interview with teachers in the professional learning group, Ms Lacey spoke most knowledgeably about ways of catering for different ability students in the classroom, discussing strategies for differentiation seventeen times during the group meeting and mentioning a total of nine different strategies. She had already explained which students would require different work and expressed exactly which methods she would try and what challenges she foresaw, including the challenge of a range of abilities (CRA), student visibility (CSV), reluctant workers (CRW), and subject specific challenges (CSS). Despite her conscious awareness of these challenges, she recognised the need for differentiation and spoke of potential positive outcomes such as increases in confidence and raising the self-esteem of students (IGI-CL).
6.2.2 Classroom practice

Ms Lacey decided to differentiate English teaching with her Year 9 class as she predicted there would be a significant range of achievement within the class, given her knowledge of the students. She provided the researcher with detailed notes on her first lesson with this class, which were used to explore the strategies she intended to use to differentiate her teaching with these students (EN-CL).

Ms Lacey reported beginning the year with a diagnostic test which confirmed “a huge difference in the students’ ability levels” (Ms Lacey’s emphasis). She noted that “the most able student was on par with my top set boys and the weakest student didn’t understand how to punctuate simple sentences or spell some commonly used words”. Her plan of action involved giving boys “separate grammar and punctuation exercises for homework based on their level” and pointed out that “these were easy to photocopy from a book”; she also wrote down some specific areas on which various groups of students needed to focus. She commented that she was fortunate to have “a small class of eighteen students and this allows me to give the boys one-on-one help when they are working on a task in class. Correcting work over their shoulder and explaining their mistakes is effective” (IGI-CL).

Another strategy used by Ms Lacey involved a pre-prepared booklet and questions, which she pronounced “invaluable for an English teacher”. She went on to explain that the booklet had “Some extra exercises included which the boys can do if they work faster than their peers. I have already asked some of the students to complete a table on one of the stories while the other boys finished off the questions”. This indicated that Ms Lacey was acutely aware of some of the difficulties involved in teaching students of differing abilities, such as the different speed at which they work. She intended to counter this problem by pre-preparing extra exercises for those who completed tasks quickly (IGI-CL).

Ms Lacey’s notes included specific references to individual students and the methods she was using to ensure that they were sufficiently challenged by the work she set. For example, she reported:
Today I gave Student X *The Secret Life of Walter Mitty* to read because it relates to the story he’s going to write and asked Student Y to read *Herbie* as it is a story for mature readers. Both boys were eager to read these stories which is always a great sign as it’s often very difficult to get students to read!

The need to extend stronger students, whilst being mindful of not rushing weaker ones, was evidently already clear in Ms Lacey’s mind. She described a task in which she set a piece of creative writing for the students to complete in silence. “I provided a model example from one of the top set boys and scaffolded the task for the less able students”. She had already explained the task to three students the day before when they finished the previous activity early and “told them to begin writing without listening to the example and my explanation”. She reported being pleased that “the three boys in this category happily got to work” (EN-CL).

Ms Lacey asked the boys to put their hand up if they finished early and said that she then gave them extra work to do, brainstorming or planning for their formal assessment. Also mindful of the need to ensure that students working more slowly still needed to complete set tasks, the brainstorming that these boys undertook during the lesson was set as homework for the other students and students who had finished their work were encouraged to begin writing their introduction. Ms Lacey reported the advantages of this approach, suggesting that:

> This benefits them because they learn that it is advantageous for them to do more work – it creates autonomous learning and motivation in them at a younger age – setting them up for upper-school. (IGI-CL)

Although this was the first lesson of the year with this particular class, Ms Lacey was already thinking ahead in terms of how she would motivate the students and reflecting on past experiences with similar classes. Regarding informal assessments such as homework tasks, she reported that one of her strategies to encourage the students is that she recommends they submit work early and seek advice. This boosts their marks and increases their self-esteem, she said:

> … and they learn from my corrections and making the changes themselves. This reinforces the importance of working hard and completing work before the due date and their organisation is rewarded. (IGI-CL)
The way that the boys view their own work and results was at the forefront of Ms Lacey’s mind. She mentioned another motivational strategy she had used in the past, which involved reporting on the students’ efforts via the school’s ‘green slip’ system, a system in which improved effort or results are reported to the school’s pastoral care team, to reward those who achieved pleasing results in non-formal assessments. She reported that “Many boys really impressed me in this first homework activity so there was a lot of positive reinforcement” (EN-CL).

Ms Lacey’s comments reflected her deep thinking about differentiation and how she could most effectively cater for her students’ different learning needs. Known anecdotally as a high-achieving teacher with high expectations of her pupils and their work, Ms Lacey also was a popular teacher with the boys because they knew they would make good progress in her classes.

6.2.3 Reflection

During the final individual interview, Ms Lacey said that being involved in the professional learning group had “clarified what I already believed”. It had made her “focus on differentiation more” and she added that it “hasn’t changed my teaching that much, but made me feel good about myself”. She explained that the time she had spent reflecting on her practice had been time well spent and that the extra time she had spent planning to cater for her students’ different abilities had been worthwhile “because it has shown that it works”. Ms Lacey confirmed that she believed “reflection is so important … to improve teaching” and emphasised that although she obviously would not repeat the aspects of her teaching that she felt had not worked particularly well, “I think you have to take the risks and compare what worked and what to put into place next time”. Ms Lacey reported that she had “really enjoyed” being involved in the professional learning group and that reflecting on her teaching with others “has generally improved my teaching” (FII-CL).

In terms of whether the process had changed her thoughts about teaching different ability students, she suggested that it had “definitely made me think that it’s good to stream – good having the top set class and the support class”. She believed that the top set was “very beneficial for the very able students” and explained that the support class
was essential as those students could not keep up with the pace of the others and this slowed down the rest of the class’s learning if she had to “go back to basics every time”. Despite this, she was adamant that it was “still quite easy to challenge the high ability students” in her mainstream English class. She suggested that she probably planned for the middle ability student and then focused her time in class on the weaker students “who need a bit more attention”. Her frustration with these weaker students was based on her belief that “if they did the set work to the standard they could, all the time, then I’d have just as much of an effect on them” but she found that those students’ efforts outside the classroom were less substantial, particularly in terms of reading. “Some are not reading outside the set class texts – some are not reading for pleasure. Most of the weaker ones don’t read for pleasure” (FII-CL).

Ms Lacey recognised and reported the difficulties involved in teaching and differentiating in secondary English:

… because there are lots of students who don’t come to the senior school with the skills required – basic literacy, grammar, punctuation – pretty simple things you’d expect them to have.

She did not want to be spending her precious class time teaching the basic skills “that half the class knows well” and she suggested that, as an English teacher, she felt that primary education in general needed to have more of a focus on reading, as this would also improve students’ understanding of punctuation, build their vocabulary and, in turn, improve their writing (FII-CL).

Ms Lacey pointed out that many parents read very little themselves and this makes it even more difficult to ensure students understand the importance of reading – “They have to model this! They don’t encourage it enough”. Ms Lacey wondered whether the school “could focus on the parents in Year 7” and help them realise that “reading is the best way for kids to learn and improve. If they don’t have homework they should be reading”. She went on to explain that a lack of reading “becomes a problem in terms of comprehension in Year 12”. She had noticed that the reluctant readers “can’t make meaning because they don’t read – they have to be taught it and teachers can only do that to a certain extent”. She noted that the examination marks the students achieved on the reading section of the Year 12 examination papers were always “remarkably lower” than the section in which they were required to interpret images (FII-CL).
Regarding what she had learnt from her involvement with the group, the positive outcomes included the fact that the two boys who had received extra, more difficult work as a result of her differentiation were very keen to read the extra stories involved. She described this as a “great sign, as it’s often very difficult to get students to read” and went on to explain that students who got involved in more challenging tasks also understood the need to work hard.

In terms of recommendations to colleagues, Ms Lacey suggested that “really focussing on the questions they pose and the students to whom the questions are targeted” would be a good way to start considering differentiating teaching. She saw class discussion as an important aspect of students’ learning and pointed out that ensuring that tasks include “a range of low to high order questions … allows a topic to have the scope to involve a complex answer”. She had noticed that when answering written tasks in English, “the less able discuss individuals and the more able look at how that represents values and attitudes”, so the same task could be given to a variety of students who would achieve different outcomes (FII-CL).

Ms Lacey explained her view that group work could be very effective as a differentiation strategy and made it clear that selecting “which students go in which group can be done quite subtly and can produce some high quality work and challenge each individual student”. She also was of the opinion that providing appropriate, effective, individual feedback to students on their work was essential if they were to make suitable progress. She described the way in which she encouraged students to submit work such as practice essays so that their drafts could be marked (FII-CL).

Ms Lacey saw the development of using e-mail as a communication tool as particularly helpful for “quieter students” and explained that being a less public forum encouraged them to write and submit work for feedback. She expressed her belief that “feedback on both formal and informal assessments [the ones that ‘don’t count’] needs to be extensive and individualised” and she noted that the teachers’ efforts in this domain made it “pretty special compared to other schools where they just get a grade and no targets”. Ms Lacey said that she always ensures that her marking includes a target to encourage
the students to focus their efforts appropriately; “To get a higher mark, you needed to …” (FII-CL).

The final group interview of teachers in the professional learning group reflected Ms Lacey’s extensive thoughts on differentiation in the classroom and confirmed her expertise in this area. There were twelve occasions on which she discussed seven different strategies that could be used by teachers in classrooms. Her focus on positive outcomes for students as a result of differentiating teaching was notable and she was able to articulate the specific successes of a creative task with her class which had resulted in the more able students being challenged and the teacher helping each student individually (FGI-CL).

6.3 Mr Evans – ‘The Determined Differentiator’

6.3.1 Pen portrait – views on differentiation

At the time of data collection, Mr Evans was a 31 year old languages teacher specialising in French and German. After a high school education in Germany, he trained originally as an English teacher in Australia and had been teaching a variety of language-based subjects for seven years including French, German, English and English as a second language (PP-HE).

He described himself as “passionate, enthusiastic about learning” and wanting to make learning a positive experience by invoking curiosity in students and encouraging them to become life-long learners. He said that he teaches “for the moment when the penny drops”, even if that does only happen occasionally (PP-HE).

At the beginning of the research project, Mr Evans said that, for him, differentiation happened in two ways in the classroom; one way involved “making any activity open-ended so that they can enter or exit at the appropriate levels; getting the kids to produce something”. The other way is when:

… the input is differentiated – you give them multi levels of information, from superficial key points of a task to key points with a bit of detail, to a doctoral thesis for those who are very keen on it. (III-HE)
He explained that “in Utopia, every teacher would be differentiating, because every kid is different and has a different starting point and different exit point”. He claimed that:

Unless you stream by visual stimulus, musical ability etc, you can’t teach them in the same way. If you want them to learn the subject matter you have to differentiate – you can’t expect 24 kids of different abilities to grasp it otherwise. If you teach towards the middle, you’ll get 60 percent of the class, 20 percent will be bored stiff because they’ve finished and 20 percent at the bottom will be bored stiff because they can’t do any of it (III-HE).

Mr Evans described how teachers “can join Bloom and Gardner in a table or on axes – joining multiple intelligences and levels of thinking”. For example, “if a high level question for someone with musical ability is required, this can be joined to a topic or theme and you can apply this to any learning situation” (III-HE).

When discussing whether he had used differentiation in his languages classrooms, Mr Evans explained that his attempts to “go away from the chapter” with one class had proved difficult because his approach had not fitted what was wanted within the department at that time. His creative ideas of working, for example, on menu writing with his Year 8 class had meant that he was “falling behind in textbook work”, and he had felt that all the Year 8 students were expected to be “on the same page at the same time”. Despite his claims that he was “not creative”, Mr Evans described how he had made films with his Year 11 German class, writing the scripts, organising the music, costumes and ICT all in the target language with the students and teacher speaking nothing but German during the entire project. And although he said that he understood this might not be classified as differentiation per se, Mr Evans explained that this was seen as “still going outside the standard” (III-HE).

The main issue that prevented Mr Evans from differentiating was “time constraints – the same old story”. He explained:

If I have reports to write and exams to mark in a day and a half, I can’t sit down and plan different resources. I do it when I have time and am on top of things. I think ‘What would be something to enjoy doing in this class?’ ‘What would that boy like?’ ‘How can I make him the centre of attention in a constructive way?’
Mr Evans elaborated on this, saying that the limitations of managers insisting that all students should be on the same page at the same time prevented him from working in his preferred way of teaching. He was used to teaching with a theme (whether that be science, languages or maths) and was expected to create lessons that were “all about differentiation, Bloom and Gardner” (III-HE).

Mr Evans had decided against using ideas that necessitated the heavy use of technology as he lacked the interactive whiteboard that he needed for this in his classroom. He intended getting involved in the department’s pilot study of language immersion the following year, both in French and German. He also was planning his own action research project for the International Boys’ Schools’ Coalition (IBSC) into the use of sign language in languages teaching – he had always wanted to try this “to compare how boys respond to sign language and how much they like it” (III-HE).

In terms of his plans for differentiation, Mr Evans justified the need to cater for the very different abilities of students within his upper school 3A/B German class by describing the students. The class included two native speakers (one in Year 11 and one in Year 12) and seven boys learning German as a second language. He described the students as having:

… a huge range of prior learning, ability and learning styles. One is a top set academic scholar, one would like to be, one had the benefit of three months’ exchange in Germany, three who wallow in the middle and one who flounders through every subject he studies.

He continued to explain that the boys’ motivation “ranges from ‘I desperately need this subject to count’ [towards their Year 12 examination score] to ‘I’m not counting this anyway, so why bother?’” (PP-HE).

Mr Evans described his personal plans to differentiate work for his Year 12 German class during terms one, two and three. After reading the professional reading book (Tomlinson, 2010) provided by the researcher, Mr Evans chose strategies that he planned to use to differentiate learning and achievement for his students. He planned to record “student motivation, achievement, attitude and ways in which I could improve their learning” in a student log or learning journal which he would update several times each term. He would list specific actions for each boy, ranging from a quiet talk to the
student after class, to alternative resources and a telephone call to the boy’s parents as necessary. Assessments would be written for student-specific needs. For example, some students are still struggling with word order in German sentences. Others find it difficult to decide whether the auxiliary verb at the end ought to be in the infinitive or conjugated to subject, others just have a very limited vocabulary. Whatever the case, the concern is kept in the log and specific work is sought for each student to help them overcome their particular obstacle (FGI-HE).

Although Mr Evans had a strong interest in Gardner’s idea of multiple intelligences, he was pragmatic in his reasoning that giving students the opportunity to respond in a variety of ways was unrealistic when they would be assessed at the end of Year 12 only on their speaking, listening, reading and writing skills (FGI-HE).

Mr Evans was one of the teachers who expressed in his individual interview a significant number of concerns about having the time to differentiate effectively but was keen to try out his planned strategy. His comments indicated that the affective domain is crucial in the development and encouragement of boys’ learning and he hoped to be better able to cater for his boys’ affective needs using his learning journal (FGI-HE). He gave many reasons, both practical and theoretical, justifying the need for differentiation as well as one practical reason not to differentiate which involved the restriction of all teachers within his department having “to be on the same page at the same time” (III-HE). At the beginning of the research project he described different strategies that can be used in languages classrooms and the challenges of differentiation, particularly the fact that it resulted in extra work for teachers (III-HE).

Mr Evans’ thoughts on the fact that teaching in a differentiated manner meant extra work for the teacher and that this proved a challenge to differentiating his own teaching were reiterated during the initial focus group meeting. He also focused on the strategies of providing extra or different work for higher achieving students (IGI-HE).

6.3.2 Classroom practice

Mr Evans decided to implement differentiation with his Year 12 German class, using a system of regularly noting down the knowledge and understanding his students were
developing at each stage of the course. Having taught many of these boys the previous year when they were in Year 11, he was well aware of the range of abilities within the class. Part way through the year during which he trialled his differentiation strategies, he provided the researcher with an A4 sheet of notes describing the situation in the class, the action he had decided to use “to differentiate learning and achievement by my students” and an analysis of the outcomes he noticed and the problems he experienced (EN-HE). These notes were discussed with the researcher to ensure an effective understanding of what he was trying and the progress he was making.

It was interesting to note that the issue of having native speakers in a languages class forms an extreme example of some students in a class being ahead of others in terms of their knowledge and understanding. The two students were both native German speakers from Switzerland. Mr Evans commented that “to not bore them silly, they need to be working on literature-based things” and noted that:

… although they are good at Swiss German, they need to be working on standard German – reading novels in German and discussing them with the teacher, for example.

He mentioned the fact that “this tends to happen in the last ten minutes of the lesson when other boys are consolidating their knowledge and these boys don’t need to”. To cater for their needs, the two boys used a different textbook from the rest of the class – a book from Germany, written to be used with German students (EN-HE).

Mr Evans’ notes reflected an interest in the affective aspects of his students’ learning and he commented in his notes on significant differences between his students’ motivation. Having read the book provided by the researcher during the Christmas holidays, Mr Evans decided to keep a journal logging student progress as a strategy to help him differentiate for the learning needs of this diverse Year 12 German class (EN-HE). Figure 19 shows an extract from his notes, describing his ideas.
I decided on a few strategies I could use to differentiate learning and achievement by my students:

A student log or journal in which I record student motivation, achievement, attitude and ways in which I could improve their learning. This is updated several times each term, with specific actions listed for each student, ranging from a quiet talk to the student after class, to alternative resources and work to a phone call home. The change or improvement in behaviour is then recorded.

Assessments are parsed for student-specific needs. For example, some students are still struggling with word order in German sentences. Others find it difficult to decide whether the auxiliary verb at the end ought to be in the infinitive or conjugated to subject, others just have a very limited vocabulary. Whatever the case, the concern is kept in the log and specific work is sought for each student to help them overcome their particular obstacle. Some students prefer to work through problems verbally. Others like to write. Whatever the case, when working through an exercise in our text or on-line resources, students have the opportunity to respond in a variety of ways. Of course, it is either spoken or written. Gardner’s multiple intelligences would be unfair, given the format of exams at the end of 3AB courses.

Figure 19. Mr Evans’ description of his differentiation strategies.

Figure 20 shows an example of the journal notes Mr Evans took at the very beginning of the year, aiming to ascertain the starting position of a particular Year 11 student, whose name and photograph have been obscured for reasons of anonymity.

Figure 20. Notes from Mr Evans’ journal regarding a student.
These journal notes show that Mr Evans’ initial observations in week one covered both affective and academic aspects of the students’ progress as well as including advice regarding how to deal with this particular student’s needs. He noted that the student “sometimes forgets immersion and speaks English”, a reference to the fact that Mr Evans’ lessons for students of this age were conducted entirely in the target language (in this case, German) and he included a note prompting himself to remind the student to speak only in German during lessons.

Notes regarding the student’s written work were marked with a “+” to denote positive aspects of their work and those needing attention were marked with a “-”. For example, the notes showed that the student in Figure 20 “understands subject-verb agreement” but needs to work on “prepositions, case” and “zu/nach”. Underneath the initial observations were notes added in subsequent weeks as the students submitted work and it was marked and assessed. The week four note, for example, indicated that although the student submitted the essay late, he did put some thought into it; and that the listening assessment showed that he “did not take nearly enough notes to enable him to find words in the dictionary later”.

Figure 21. Later notes from Mr Evans’ journal regarding a student.
(e-mail address obscured for reasons of confidentiality)
Figure 21 shows a later section of the detailed notes kept by Mr Evans on the same student. The notes indicated suggestions regarding the action he intended to take to help the student work on his areas of weakness. For example, the note on class work suggested that “more independent study is needed to improve!” and Mr Evans’ comments revealed that the student had an “inconsistent approach” and that he was “at times motivated, other times a bit ‘flat’, lacking motivation and confidence”. The action suggested was to “Give links between Germany and Australia” and to remind the student “why he is learning a foreign language”. At the end of this particular page of notes, Mr Evans wrote “Can only encourage as German is one of five subjects”, presumably referring to the fact that he could only make the student do a certain amount of work, and that he might have been unable to do more as he had four other subjects on which he also should have been focussing some of his attention.

Mr Evans wrote similar notes for each of the nine students in the class, for the duration of the academic year. At the end of the three terms’ trial of Mr Evans’ differentiation strategies via a journal and setting specific work geared towards the needs of his diverse students, he described the boys as responding “really well to the different types of student-specific improvement tasks” and noted that “they appreciated the individual attention”; the main positive outcome of the strategies for him was the feeling that “The work is tailored to each individual”. He did comment, however, that the students “realised soon enough that ‘improved outcomes meant more work’ and decided they were happy to cruise along”. He was disappointed by the students who “just see it as more work” and felt frustrated that some of them were happy to achieve 60 percent in assessments. “They aren’t grateful for the alternative or additional work – they don’t have the right mind set” and “Some put all their effort into other subjects such as science subjects”, a comment that reflected his observation that some students at the school saw languages as a poor relation when it came to subject selection and would prioritise their science work, for example, over languages tasks (EN-HE).

Mr Evans described the main problem with his approach as time-related and said that “It’s very frustrating because it’s so time-consuming”. He reported that:

Searching for, categorising and then finding student-specific resources takes an inordinate amount of time; at least until one has established a catalogued database of resources.
He also commented that:

… students aren’t used to this kind of individual feedback and without the right kind of parent/tutor contact and explanation, they won’t necessarily understand or appreciate it.

To overcome this, he intended to ask them and their parents and tutor whether they actually wanted to receive extra work to ensure they were improving in the specific areas on which they needed to focus (EN-HE).

One of Mr Evans’ practical concerns regarding differentiation in class was whether giving some students less detailed information could be seen as a disadvantage at assessment time, and he was not sure how this could be overcome. He noted that his approach was only possible because of the small class size of only nine students and commented that it still took him ten minutes per student per week to complete what he has achieved (EN-HE).

### 6.3.3 Reflection

Mr Evans’ final individual interview started by focusing on what he had learnt from his differentiation efforts. He reported that the professional discussions in which he had been involved had brought the realisation that “there are many different ways to go about it” and that “my way was really time intensive; there are better ways to do it”. He also had been surprised to learn that “not all students will necessarily care that you’re differentiating for them – some couldn’t care less” and he suggested that a reason for this might be because “they aren’t particularly used to it here”. He reported feeling frustrated that despite his explanations regarding what he was doing and why, some of the students “did not appreciate having different tasks – they might feel they’re getting something easier and think ‘Am I dumb?’” (FII-HE).

In terms of his own professional learning, Mr Evans said he had learnt that “I need to practice to get better at it – it’s a learning curve” but admitted that he “wouldn’t do it again” in this way as the time it took made the learning journal technique prohibitive. He qualified this supposed reluctance to differentiate, however, saying that for those students who were “really lagging behind, I will put hours in to get them to an acceptable standard”. The experience of students who had seemed not to care about his
efforts was obviously in the forefront of his mind as he pointed out that “a lot depends also on the enthusiasm of the student” and explained that:

… if I differentiate my content and put hours in to help that student and they show zero initiative because they couldn’t care less, I will wonder why I put that much effort in and ask if they want it. If they don’t, I will put my efforts into those who are willing to put the effort in, too.

Those who had been reluctant to appreciate his help had evidently frustrated him:

If they don’t want to study or do the work or would rather play Wii, then they go and do it – I won’t differentiate for them because they don’t like it or just don’t care.

In particular, he asserted that Year 12 students should be self-motivated by that stage in their education (FII-HE).

Mr Evans was adamant that he always wanted to plan and teach in the best way he could, but had realised that there is always a pay-off in terms of having to give up something to make time to work outside school and discussed the challenges of teachers putting more and more time into planning, sometimes to the detriment of their personal lives. In terms of differentiation, he believed that “why to do it is self-evident – everybody learns differently” and if teachers want everybody to learn successfully, then they “need to make learning accessible so students can learn” (FII-HE).

Regarding the question of whether involvement in the professional learning group had changed his thoughts about teaching different ability students, Mr Evans suggested that he had always known that different ability students existed and said that he differentiated “as well as I want to – I could do it better, but there’s always a pay-off – what will give?” (FII-HE). He reported that he would invest more effort into the students who also were keen to put more effort in, rather than those who did not care.

Mr Evans’ suggestions for teachers interested in differentiating their teaching included organising their students to complete a survey to help them realise how they learn best, so that the teacher can provide them with suitable learning experiences. He explained how meeting the core requirements of teaching a foreign language by teaching reading, writing, listening and speaking automatically meant that a teacher was providing a
differentiated learning experience in terms of catering for different learning styles or multiple intelligences. For him, the challenge was more in terms of how to cater for students with different achievement levels. Mr Evans was undecided as to whether “giving a worksheet with three terms to one student and a worksheet with thirty terms to another student is fair if they’re preparing to sit the same test”. This dilemma had resulted in his concluding that he would differentiate according to learning style but would “teach all the new concepts equally so that they can’t say ‘you didn’t teach us all this’ – because I did” (FII-HE). Mr Evans reported being against the idea of streaming students, saying that if a teacher wants students to achieve good results, they need to make learning accessible to them (FII-HE).

6.4 Mr Ashwell – ‘The Reflective Differentiator’

6.4.1 Pen portrait – views on differentiation

An initial interview was not conducted with Mr Ashwell as he arrived at the school after the start of the research project. His opinions, described below, were given at the first group interview of interested teachers and in subsequent interviews.

Mr Ashwell is a relatively young mathematics and teacher of computer science who taught for six years in an eastern states school in Australia before being appointed to this school. He described himself as “a relaxed teacher”, who focuses on student learning but is “not as concerned with things such as volume of noise or student behaviour as some teachers are”. As long as the behaviour of the students is good enough to enable them all to learn, he explained he considers it to be acceptable. He reported “constantly challenging students” and being impatient with those whom he described as “unintellectual”, expecting every student to try hard and to be “as intellectual as they can be”. He described his teaching strength with the brighter students, but reflected that his recent experience teaching low ability boys for the first time had been a success, and reported that he is “getting pretty good” at this (FII-MA).

At the time of data collection, Mr Ashwell’s curriculum vitae described his most memorable educational experiences, including “working with colleagues to create differentiated cross-curricular units”. He aimed “to inspire students and educators to
embrace learning and understanding and to reach their individual goals” and “to cater for individual needs by creating relevant learning experiences for unique students”. In his role at a previous school he co-ordinated the gifted and talented programme as well as teaching computing and developing relevant and enriching programmes and transforming the computer science department into what he described as “a thriving and self-sustaining part of the school” (EN-MA).

During the initial focus group meeting, Mr Ashwell demonstrated enthusiasm for differentiation by making suggestions to colleagues regarding differentiation in the classroom. He had already developed fixed ideas on pre-testing, a process which he described as essential to ascertain students’ prior knowledge at the beginning of a topic. His personal interest in gifted and talented students was reflected in his facilitation of a termly discussion group of three teachers focused on how best to deal with bright students in the classroom. His mention of a total of 15 teaching strategies involving differentiation and only one challenge to it in the initial group interview, reflected his positive approach and the fact that he saw differentiation as an essential aspect of an effective classroom (IGI-MA).

6.4.2 Classroom practice

Mr Ashwell was the member of the group who was most keen to discuss on a regular basis what he was attempting in terms of differentiation in his classroom. His initial plan was to try some differentiation strategies with his Year 9 mathematics class. One of his early attempts to plan a lesson with different routes for different groups of students is shown in Figure 22.
Figure 22. Mr Ashwell’s initial plan for a differentiated lesson.

The flowchart shows different activities planned for three groups of students dubbed support, core and extension. Mr Ashwell explained that an initial pre-test was given to all students and included two levels of questions labelled basic and core. Students who scored zero marks in the pre-test progressed into the support group, those who scored anything between 1 and 99 were put into the core group and those who scored full marks went into the extension group. At this point, the differentiated tasks and teaching began. The core group was involved in explicit teaching and note-taking whilst the support group had a set of simplified written notes distributed to them for use during the
explicit teaching. Whilst the teacher-led section of the lesson was happening, the extension group worked to complete ‘challenge questions’.

When the explicit teaching had finished, the core and support groups were given questions to test their understanding at which point Mr Ashwell worked with the extension group, running a discussion regarding the challenging questions they had been working on and setting them further questions to consider while he circulated around the classroom, or made himself available to work with individuals and answer questions from students. An example of the type of difficult challenge question set for the extension group is shown in Figure 23, with purple annotations made by the researcher at the time of discussing this strategy with Mr Ashwell.
The annotations shown in Figure 23 revealed that Mr Ashwell aimed to give a harder question (number 1) to students who had completed the previous ‘challenge’ question successfully. The group had been taught problem-solving and question 1 was a direct application of this. Mr Ashwell reported that “a few” students did succeed at this question. Question 2 was designed to be a very difficult question that he predicted “only a few” would be able to complete and this proved to be the case.
The lesson ended with a reflection session in which the teacher led a discussion of what had been learnt that day and appropriate homework questions were set for each of the different groups.

Mr Ashwell’s enthusiasm for his methods of differentiation led him to try something similar with his Year 8 class, an approach which he pronounced a great success. He revealed that:

by teaching at such a differentiated level, I have seen the major problems that my weaker kids have with percentages, and have given them heaps more confidence since they can work slower and don’t have to see the hard-type problems. (Mr Ashwell’s emphases)

Later in the year he extended the differentiation approach to a Year 9 computer science class, an example of which is included in Figure 24.

Figure 24 shows a number of features Mr Ashwell used to encourage his students to develop independent learning strategies. The worksheet shown includes detailed instructions for the students to follow and an exhortation to “Tick each when it is done”, so that they kept a visual record of how far they have got at each stage. A marking key for the tasks also was included at the bottom of the worksheet, so that the students were aware of the allocation of marks for each task, again in an attempt to encourage them to achieve as high a mark as possible. In terms of differentiation, Mr Ashwell gave his students a choice of whether they worked on the easier ‘bronze’ task, the ‘silver’ task which was slightly more difficult, or the more challenging ‘gold’ task. (He later developed this system of bronze, silver and gold work into a system of trophies and certificates which successfully motivated many of the students).
Get Turtle working at home
Due date: Week 10, Tuesday

In this task you will install Python at home and use it to draw a simple Turtle picture. You will need to take a screenshot of your Python window working at home and upload it to your website.

Instructions
For this task, please follow these instructions. Tick each when it is done:

1. Go to [www.python.org/download](http://www.python.org/download) and download from there Python 2.7.1. If you have Windows you will need to download the “Windows Installer” (not the X86-64 one); if you have have a Mac you will need to download the “Mac OS X 32-bit i386/PPC Installer”.

2. After you have installed it, run IDLE. It may be called IDLE (Python GUI).

3. When you run it, you should be in interactive mode. You know this because the start of the line where you will type has >>> on it. However, interactive mode is not what we want. Go to the menu and choose file -> new. That will give you a completely blank window.

4. In your new blank window, go to file -> save as, and save it as “firstProgram.py”. Make sure you type the .py on the end!

5. Now, write the code in the box exactly. You even need to get the capital letters right!

6. Run the code (from the menu: run -> run module).

7. Take a screenshot of what you have done. In OSX, press command-shift-4 to take a screenshot. In Windows, take a screenshot using the “PrntScrn” or “PrintScreen” button, open paint and paste it into paint.

8. Create a new page on your website called turtle.html and link it to your main site. On this page, include the image you have taken using the <img> tag.

<table>
<thead>
<tr>
<th>Bronze</th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete the task as written above.</td>
<td>Before completing step 7, you should make some modifications to the image. Draw a different or more complex shape. You could use another function to help you.</td>
<td>Read the examples in the red book you have been given, and do something even fancier.</td>
</tr>
</tbody>
</table>

Ready to Learn
You should:
- Complete the task on the weekend or earlier
- If stuck, you can:
  - Post on the forum with what you are trying to do, and what is confusing you.
  - See a teacher at lunch in the FutureSphere for help.
  - See Mr **** during tutor period on Friday or Monday in the Studies Office.
- Help others who are stuck

Marking scheme

<table>
<thead>
<tr>
<th>Level</th>
<th>Marks</th>
<th>Criteria</th>
</tr>
</thead>
</table>
| Bronze | 3     | • Taking a screenshot of your working program (2 marks)  
|        |       | • Correctly putting the screenshot on your site (1 mark) |
| Silver / Gold | 2 | • Modifying the picture to include more challenging elements  
|        |       | • Including concepts which have been taken from the red book or the internet |
|        | 1     | Correctly submitted on Tuesday. |

Figure 24. Example of a differentiated task in Mr Ashwell’s computer science class.
In addition to differentiating worksheets, Mr Ashwell continued to develop the differentiated flowcharts that he used for lesson planning and Figure 25 shows a subsequent version for a mathematics lesson on simple and compound interest. It was more complex than previous ones and although it had a similar structure which involved a pre-test and three differentiated routes through the learning, it also included matched references linking learning concepts to specific sections of Maths-on-line, an internet-based mathematical learning tool that students were using to clear up any areas of weakness in their mathematical understanding. For example, 4111 was a link to work on depreciation and 4112 links to work on loans. The flowchart also had diamond-shaped sections which indicated the times when the teacher needed to check work that had been completed as well as different types of task including ‘assignment’, ‘presentation’ and ‘investigation’.
Figure 25. Mr Ashwell’s differentiated plan linked to Maths-on-line.
Mr Ashwell frequently reflected on his own practice through discussion with the researcher both in person and by e-mail, describing in detail the differentiation strategies he was implementing in his mathematics classroom. Figure 26 shows an extract from an e-mail in which he outlined to the researcher what he described as “significant changes” which he intended to make to his teaching of this class.

* Every lesson, I will teach the first 10 minutes ‘traditional style’

* Students will work in pairs from now on, and I will check their work in pairs. I will choose the pairs to always have people on the same ‘path’, but within that constraint, ‘mixed ability’ to the greatest extent possible. Complementary personalities, at the very least.

* Each unit (2 weeks), students will write their aims for test results explicitly

* Each lesson, after my 10-minute intro, students will write their learning goals for the lesson

* I plan to have not 1 flowchart but three separate sheets – students will get 1 sheet each for the ‘path’ that they have chosen, and it will contain ‘what-if’ types of things if they need more help etc. This will allow me to ‘move them faster’ through the content by skipping more of the ‘lessons’ on Maths-on-line but still saying ‘go back to lesson XYZ if you need that step’.

Figure 26. E-mail extract describing planned changes to Mr Ashwell’s in-class procedure.

This e-mail indicated that, as a reflective practitioner, Mr Ashwell wanted to develop the differentiation strategies he was trying in his classroom. His comments reflected his belief that the students’ personalities had a role to play in the success of the learning process and that they would learn more effectively if they were working in pairs rather than individually. He also embraced the school’s new policy which was at that time encouraging students to think about goal-setting and planned to set his students the task of setting learning goals for themselves, both at the beginning of each lesson and (as test aims) before an assessment.

Mr Ashwell developed his lesson planning in this differentiated style during several different mathematics topics. Initially, his differentiated plans covered only one lesson.
Later, his plans covered several lessons on the same topic as illustrated by Figure 27. The development of his thinking is evident from the different format of this plan relative to previous ones as well as the way in which he makes explicit links to the ‘can do lists’ (see the ‘I can’ statements in the top, right hand box) and encourages the students to set their own goals.
Figure 27. Mr Ashwell’s differentiated plan covering several lessons on a concept.
This version of a differentiated plan shows the development of Mr Ashwell’s ideas as he tried them out in the classroom. Students were encouraged to work with a buddy and ‘can do lists’ were provided in a format similar to that used throughout the lower school, so that students knew specifically what they needed to achieve during that unit of work. Concepts were still linked to Maths-on-line (‘MOL’) and textbook references were added; the three differentiated levels of work had been colour coded – green for the easier work, blue for work of middle difficulty and orange for extension or challenging work.

Mr Ashwell also planned one topic in which the students were divided into groups and allocated concepts from that topic to teach to other groups within the class. This was based on his reading Hattie’s (2010) assertion that one of the most effective methods of learning is reciprocal teaching, that is, getting students to prepare lessons and then teach one another.

Initially, Mr Ashwell reported being pleased with the effort the students put into the planning and delivery of their lessons, although he did describe some problems in terms of students lacking faith that their peers would be able to teach them effectively. He stated that the students quickly became bored with the peer-teaching approach as the novelty wore off after two or three experiences with the method (EN-MA).

The researcher was invited to observe one of Mr Ashwell’s differentiated Year 9 mathematics lessons and, with his permission, took the opportunity to discuss the approach with some of the students. The student comments that follow were noted during that observed lesson.

Mr Ashwell regularly encouraged the students to make their own choices regarding which work they undertook and many of the students were able to give a coherent description of what the three colours of work represented. One student gave the following commentary: “Green is for people less able at maths. Blue is for average people at the ‘right’ level; orange is for those who have fully done blue and want a
Another student reported that “Blue is to pass the test, orange is to do well in the test”. When asked why they had made their particular choice, the following reasons were given – “I don’t do green, I don’t need to review old work”; “I’m not orange – I’m not really good at maths”; and “I chose orange because it’s easy – I often choose orange”. Only one student claimed to be unaware of why he was doing the blue section – “I chose orange, but he told me to do blue, I’m not sure why”. It was clear that most of the students were well aware of reasons for their choice of work task and able to justify that choice (LON-MA).

Students were keen to talk about Maths-on-line, a number pronouncing it “easy to learn”; one reported that he could “rewind lots and listen over and over again and get more than one example” and another said “I like working on computers and I like the man explaining it”. Another said that it was “fun not having to flick through the pages of a book” and a different student said it was “less boring than listening to the teacher”. The only negative comment made about Maths-on-line was from one student who said that he did not like the approach and claimed that “I work better from a text book” (LON-MA).

Although Mr Ashwell initially reported the system of students choosing their route through a lesson and how they wanted to learn as a success, at the end of his differentiation trial, he pronounced it a failure. He explained that it had started well, with the students being pleased that they had a choice of what work to undertake and enjoying the opportunity to use Maths-on-line, but that they became increasingly dependent on Maths-on-line and this removed the teacher from the learning loop. He claimed that he “lost track of where the boys were, individually” and this made him less effective when it came to supporting them in their learning (EN-MA).

6.4.3 Reflection

During Mr Ashwell’s final interview he suggested that the process of meeting and discussing differentiation ideas and strategies had not led him to do “anything I
wouldn’t have anyway – I would have tried it anyway” but said that it had “helped me decide what to do” and pointed out that he had “not done these specific things before”. When asked what he had learnt, he reported that he had realised that “technology isn’t the answer and differentiation isn’t the answer if it happens at the expense of good teaching” (FII-MA).

He said that he had also learnt that:

The kids love it when you differentiate – the bright, the weak and the middle – the strong ones aren’t bored, the weak kids pass and the core kids still feel more special.

He maintained that an important aspect of the process was ensuring that students felt the teacher was targeting work specifically for them, so that they felt they mattered (FII-MA).

Mr Ashwell said that the professional learning group had “definitely not” changed his thoughts about teaching different abilities of students, but reported that it had helped him develop new skills. He described being unable to differentiate for gifted students in the mainstream Year 9 class with which he had been working, “because there aren’t any gifted ones in there!” He had, however, learnt to “moderate the top end depending on who’s in the class” (FII-MA).

In terms of helpful recommendations to colleagues keen to try differentiating their teaching, Mr Ashwell suggested they start “by picking either the high or the low end and focus on those, so it’s manageable and they can see their own success”. He explained that this would “scaffold the learning for the teacher if they’re only doing a small bit at a time” and they could “then, when comfortable, do the other end”. He suggested that “less academic teachers would probably be better suited to differentiating their teaching for the lower end” (FII-MA).

Interestingly, Mr Ashwell asserted that the biggest challenge in education was instilling the belief in teachers that differentiation is necessary. He suggested that encouraging
LEADING CHANGE – EXPLORING STRATEGIES FOR CHANGING PEDAGOGICAL PRACTICES

this belief could be done through assessment, pre-testing students and showing teachers that some students already understood the content they were about to be taught in class. But he reported his finding that merely using assessment results had not been enough for him to convince other teachers of the need to differentiate their teaching. For example:

In the pre-test for Year 8, one kid got 39/40 and several others did really well. I said ‘Wow – a group of kids know more than 70 percent of next year’s course!’, but the head of department just said ‘they’ll have plenty to do with their challenge booklets’. The obstacle is always that a teacher knows they’re imperfect, but not just how bad. A teacher may think that not differentiating is not ideal, but the magnitude of laziness trumps the magnitude of non-ideal. (FII-MA)

Mr Ashwell became personally convinced of the absolute need for differentiation within a classroom when he set a task that he described as “so ridiculously challenging and above their capabilities that they took months to achieve it” for two high achieving students in his maths class. Despite the task being at a level four years above the others in the class, they did successfully complete it with his support. Mr Ashwell reported that this one success “changed those kids for ever” as well as changing his own views on the need for differentiation. It made him:

… realise the magnitude of importance of task appropriateness and the magnitude of the difference between even bright kids – there’s a big difference between a bright kid and a brilliant one. (FII-MA)

Mr Ashwell reported that overcoming teacher laziness was an obstacle that prevented a lot of teaching being differentiated. He stated that if teachers think they can achieve “a major improvement with only a bit of work, they will do it”. In terms of advice to school leaders, Mr Ashwell suggested that a possible way to influence teaching could be to “manipulate situations in which differentiation occurs”. He said that he would:

… find the one or two teachers that make it work in not a fuzzy way but a huge, transformational way, and then model that to all staff. For example, if a particular kid had an issue and we got the differentiation expert on their case and then made the results public half a year later … Say we had a child, here were their
statistics, and when we did this, here is how it changed … The most radical change was in that subject but there were also big changes in other subjects and work practices. Teachers need to see extremes work before they’ll believe that the milder versions are worth it (FII-MA).

Mr Ashwell suggested that managers could demonstrate that although differentiating does require planning, “it isn’t much more work”. He said that he would:

… target naturally planned teachers and set up differentiated tasks so it’s almost easier to do it, because the kids are more successful, there’s not as much repetition on the part of the teacher, etc.

He explained that heads of department play a vital role in the success or failure of classroom teachers differentiating their teaching. He had worked with heads of department who were not prepared to admit that a low achieving class was covering genuinely different work at a lower level and that this caused a “serious issue with the lack of acknowledgement of doing it differently” (FII-MA).

6.5 Mr Abbot – ‘The Sceptical Differentiator’

6.5.1 Pen portrait – views on differentiation

At the time of data collection, Mr Abbot had been teaching for five years, all in the history section of the Humanities Department. He described himself as “very organised, fairly energetic, fairly teacher directed and responsive” (III-GA).

Mr Abbot described during the initial individual interview what the term differentiation meant to him: “Delivering one curriculum in different ways that will enable boys of different levels/abilities to achieve”. He explained that the reason we teach the curriculum is “because as teaching professionals, we have decided it is important”. He said that he teaches Australian Federation, for example, “because it’s important that the students know and understand what it is … no matter at what ability level they are
LEADING CHANGE – EXPLORING STRATEGIES FOR CHANGING PEDAGOGICAL PRACTICES

working”. He stated that changing the curriculum so that less able students do not study certain topics is “not necessarily the answer – even if it is a hard topic, teachers need to make it not hard” for these students. This was a view that had not been expressed by other teachers in the professional learning group and reflected Mr Abbot’s strongly held belief that there are certain topics that should not be removed from the curriculum under the guise of making curriculum more accessible for lower achieving students (III-GA).

Mr Abbot stated that he felt it was important for teachers to use differentiation in their teaching. He said that he understood “there are lots of ways to learn – it doesn’t matter which way students use, as long as they learn”. He reported the belief that teachers adjusting their approach would help different boys “get to the end” in different ways and that “different ways of learning should be allowed if all are to achieve”. Despite this, he understood that “some boys won’t achieve to the same level as others, even with the right teacher approach” (III-GA).

In answer to the question regarding whether he had used differentiation in his classroom, Mr Abbot replied “not as much as I should have – I try to, but it’s difficult in a humanities classroom”. He went on to say that he thought that humanities was one of the most difficult subject areas to differentiate, “more so than maths or science”. This was because the heavy content in his subject exists alongside the critical thinking needed when dealing with textual based information. He suggested that creating a differentiated resource in mathematics could involve “simpler sums to just dumb it down a bit”, whereas in humanities he could give all boys the same source and get very different answers from them (III-GA).

During the year prior to data collection, Mr Abbot had taught a top set of high achieving students and a middle set of mixed ability students in the same year group. There were significant numbers of tasks that he reported providing to the top set but not to the middle set, for whom he had reduced the number of tasks asked. For example, he might ask the top set boys to do six things, but the middle set boys to do two or three things properly, rather than ask them to do six which might make them give up.
He explained that he had done nothing different within that middle class, no different work, other than trying to give individual help. He described questioning “whether some of those kids are just lazy as opposed to less able”, and wondered whether it was the right thing to do to give them easier work if this were the case. He said “it would be different if they really can’t do it …..” (III-GA).

Mr Abbot stated that having the time to make the necessary resources and to think about the different approaches needed was what had prevented him from regularly differentiating his teaching. “Terms two and three here are just flat out – it’s hard to stand back and do something different”. He had talked to the learning development teacher at school and had been given some information on differentiated worksheets and story mapping, but reported that using these resources in class had not been a success; “I couldn’t get to the point where it might be useful” (III-GA).

Of all the teachers in the professional learning group, Mr Abbot was the one whose initial interview reflected the greatest number of reasons not to differentiate (five theoretical reasons and one practical) relative to the number of reasons for differentiation (three theoretical). His comment about how differentiating teaching might affect students’ assessment results echoed his concerns about equity:

At the end I give them the same test … and those guys have learnt less and they’ll get less [in the test] and I don’t think that’s particularly doing anybody any favours. (IGI-GA).

He also mentioned only two possible strategies for differentiation; the smallest number of differentiation strategies of all the teachers involved (III-GA).
Of the nine challenges to differentiation mentioned by Mr Abbot, five of them included his belief that differentiation involved extra work for the teacher. This, coupled with the lack of suggestions regarding strategies suggests that he needed, not so much convincing of the worth of differentiation, but modelling and being shown how to actually do it effectively in the classroom.

6.5.2 Classroom practice

Shortly after the initial interview and focus group meeting, there was a change in Mr Abbot’s timetable which involved removing a number of low achieving students from the class which he had planned to use for differentiation planning purposes and he took this opportunity to withdraw from the professional learning group. Consequently, no data are available from lesson observations or subsequent discussions.

6.5.3 Reflection

Despite removing himself from the professional learning group, Mr Abbot was kind enough to agree to a final individual interview, although he did not attend the final focus group meeting. During his final interview he reflected on what he had learnt from his brief involvement in the group, something to which he had clearly given considerable thought. He said that he had learnt:

that humanities is probably the most self-differentiated subject there is – people are working at different levels all the time very easily because we’re not supposed to be (as a subject) quite so knowledge-based. We’re supposed to be teaching critical thinking – it’s easy to do at different levels as you go. (FII-GA)

He maintained that too often, teachers thought of differentiation as merely providing different worksheets, which “has a negative effect because it makes people feel bad (including the top person who feels they’re doing more) – you’ve unlevelled the playing field” (FII-GA).
He commented that “genuine differentiation takes an enormous amount of preparation and thought”, which was consistent with his previous comments that the main obstacle to differentiated teaching was the extra time required on the part of the teacher for planning purposes (FII-GA).

Mr Abbot stated that being involved in the discussions about differentiation had meant that he now knew more about it and that “I’m more thoughtful about it” and “I probably consider it more now”. He had previously ensured “some subtle or hidden differentiation” in assignments he set and reported that he had noticed:

… a few teachers who do nothing about it at all, which excludes the bottom end ones. Teachers say ‘He won’t try - why should I bother?’ as opposed to ‘He won’t try – there might be other reasons’ (FII-GA).

Mr Abbot also reported reading:

… a whole class set of reports where every boy except one got a C or D grade – the reports show the teacher hasn’t tried to make some sort of success with this class (FII-GA).

Regarding whether his time with the professional learning group had changed his thoughts about teaching different ability pupils, despite his limited involvement, he reported:

I know more about it now – I’m more thoughtful about it. I already had in mind (with my assignments) to allow some subtle/hidden differentiation – I probably consider it more now. (FII-GA)

In terms of suggestions to colleagues interested in trying to differentiate their teaching, Mr Abbot said that using open-ended verbal exercises where the teacher could be involved in coaching students through the lesson worked well in humanities subjects. “It’s easy for the less able to present me with the facts and the higher ability ones to present me the whys and so-whats and they all feel they’ve done a proper job” (FII-GA). He suggested that coaching students during their preparation for open-ended tasks
such as class debates was an effective way to differentiate teaching in a humanities classroom.

He recommended that leadership teams who wanted to support teachers in their quest to differentiate their teaching should allocate smaller numbers of students to classes and provide teachers with more non-teaching time so that they could prepare more differentiated lessons. He suggested that streaming students into more homogenous classes would help cater for individual students’ learning needs. He noted one teacher in his department who had “recently taught the middle sets for the first time in ages”, having previously been involved with top set students. Her comments reflected a change of mind about the efficacy of top sets as she reported that when the most able students are removed and taught in a separate class, “the rest of the kids don’t see the bright ones”. Mr Abbot agreed with this, saying that:

In humanities, you need a little population of smarter kids to bring the others up with them – to germinate ideas. If the class is all C grade kids, it’s very hard to make things fire up a bit – if you take away the sparks, it’s fine for the top set but not for the rest of them (FII-GA).

6.6 Ms Hague – ‘The Practical Differentiator’

6.6.1 Pen portrait – views on differentiation

Ms Hague is a junior primary teacher who has taught for seven years, first in country schools in the South of Western Australia and for the last two years at the boys’ school involved in this research. She described herself as “pretty fair” and said that she values diversity and difference in the classroom. She said that she has “high expectations of both standards of behaviour and work produced” and aims to let the boys have ownership over their learning. She saw herself as a reflective teacher, “always thinking about how I can do better” and anticipated that the new Australian Curriculum would provide more guidance for teachers, but maintained that it is important for students to “have fun learning” (FII-CH).
Ms Hague’s classroom practice supported her claims of being a reflective professional. She had recently completed a social survey with her Year 3 class, investigating their thoughts on bullying, how happy this year has been for them and what they have and have not enjoyed, with a view to evaluating her year’s teaching and passing on useful information to next year’s teacher (EN-CH).

At the beginning of the research, Ms Hague suggested that differentiation to her meant “Modifying tasks so that all children can achieve something” and “Seeing what each kid can do rather than setting them up to fail”. She suggested that it is important for teachers to use differentiation in their teaching because otherwise they will end up with “lots of behaviour problems if they don’t”. Being subjected to inappropriate work means that “ultimately the kids feel terrible about themselves. They give up and don’t want to try – these self-esteem issues lead to bullying; the boys get aggressive and these issues then “go out of the classroom to home and the playground” (III-CH).

Ms Hague had clearly already spent time thinking carefully about differentiation and planning various ways to cater for the different abilities of her students. The year before this study, she had arranged her Year 3 class into ability groups with the other Year 3 class teacher for mathematics teaching. Pre-testing the boys revealed a huge range of abilities and the students were then allocated to different ability groups and different programmes were written for each group. It was important to test the boys’ progress regularly, as Ms Hague recognised the importance of having flexibility in grouping rather than being “stuck in a group all year without the chance to move”, especially given the very different nature of different parts of the mathematics course. For example, some boys might be particularly good spatially but have weaknesses when studying numbers. She had noticed the effect for some students of moving “up into the top group – it really pumped their self-esteem when this happened”. She said that it was important for students to not think that they are “poor at maths their whole life” (III-CH).
Ms Hague had tried to separate her students for literacy (reading) groups, providing material at an appropriate reading level and sending those who were struggling to a support teacher for extra help. She had worked with a teacher librarian in a society and the environment enquiry in which a group of students worked through the same process together, but allowing some students to write their own questions, allowing them to self-differentiate. She reported that this resulted in good readers being able to help the weaker ones stay on task (PP-CH).

Issues that Ms Hague reported as stopping her from differentiating more frequently included the fact that she needed more people resources to help her do it. Although she received help in class from parents, she found that some sat and worked only with their own child. Having more teacher aides in class would mean that they could take a small group and would know how to do this (PP-CH).

Ms Hague reported that she would like to set up “proper literacy centres” this year as she has not tried this previously. She liked the idea of being better able to provide for some boys from the school’s centre for students with disabilities and some boys from the Learning Development Centre (for students with special needs) as well as the very bright boys in the class. Having some of the very bright students doing “a bit of peer tutoring with the others or teaching the less able ones” also appealed (III-CH).

Coding the transcript from her initial interview revealed that Ms Hague mentioned a total of six differentiation strategies. She discussed four practical reasons for differentiation, possibly reflecting her role as a primary teacher, as they may be more likely to group students into ability groupings within their classrooms. She was realistic in terms of the challenges involved in using differentiation effectively, mentioning four things that could make it difficult to implement in the classroom (III-CH). Ms Hague was unable to attend the initial group interview.
6.6.2 Classroom practice

Ms Hague had expressed a desire to consider the way in which she differentiated reading with her Year 3 class by putting them into levelled groups according to their reading ability.

Ms Hague invited the researcher to observe a differentiated reading lesson during June, 2010. Notes taken during the observation indicated that the lesson was well prepared and that different books were already set out on each group of tables when the students arrived. The students sat on tables in ‘orange’, ‘blue’, ‘red’ and ‘green’ groups, arranged according to ability (LON-CH).

The reading scheme Ms Hague used was well set up to encourage teacher differentiation, with sets of books on similar topics but written with different reading levels in mind and with associated questions set at an appropriate level of difficulty. The final page of each book included teacher notes recommending a ‘Focus Comprehension Skill’ for that specific book, for example one group was working on the ‘Compare and Contrast’ skill and suggestions were made for activities that would reinforce that particular skill.

For students who finished reading before the others, large, pre-prepared folders of different activities were available. The activities had been put together by Year 11 community service volunteers and parents and included sets of laminated cards classified into antonyms and synonyms. The cards that they contained were designed to be used for such tasks as matching cards to create pairs, or playing ‘memory’ with them. Ms Hague explained that the cards made learning into a competition which the boys enjoyed (LON-CH).

Looking at the materials used by each group, it became evident that the blue group was reading the most difficult book and had the most challenging activities and questions. This was later confirmed by Ms Hague. She had given the researcher permission to
chat to the students as they were working and discussion with various boys revealed that it was only the students in the blue group who understood the fact that the reading groups were based on ability.

The boys in the red group (which was later confirmed to be the least able group in terms of their reading) said that the reading groups had been decided by the teacher, but were unaware of how she had decided on which students were allocated to each group and said that they knew of no differences between the groups. The boys in the ‘orange’ group also were entirely unaware of the process that had classified them into their group but did know that they sat in these special groups only for reading, not for their other subjects. They had realised that their book was different from the other groups but had no idea how the groups were decided and were unaware that the books in different groups were of different levels of difficulty (LON-CH).

The researcher chatted to one of the boys in the blue group working independently on the floor with the synonyms folder, having finished his reading work. He was matching pairs of words with the same meaning and then writing the names of the pairs onto a laminated sheet. He explained that the blue group was “the smartest group for reading”, followed by the orange group, but that he wasn’t sure about the green and red groups. He thought that the teacher had put them all into groups after Ms Hague had got them all “to read out loud and worked out how good we were at it”. He explained that the groups were different in mathematics – the smartest boys (of which he said he was one) remained in this classroom and the others go into another classroom to work with another teacher (LON-CH).

Discussion with Ms Hague after the lesson revealed that every time she had worked with the boys in ability groups such as this, the most able group was inevitably the worst behaved, constantly “making links to past experience and going off topic”. She did, however, feel that the differentiation worked, mainly because she could talk about whatever concept that particular group was not understanding, at an appropriate level for those particular students (LON-CH).
Ms Hague particularly liked the structure associated with this reading scheme, which had a starter activity involving the whole class, then a time reading a text with the class in two halves, then working in small groups with each student in the group having their own book. She liked the way the boys’ books included tasks such as levelled multiple-choice questions, which the boys could work on individually, in pairs or in their small groups (LON-CH).

Talking both to Ms Hague and to the students, there was no indication that anyone felt that working on different tasks or in different groups was in any way an issue. Although many students were unaware of the level of differentiation that had been implemented, the students were working at a level judged by the teacher to be appropriate for their ability and stage of learning and they were content to work in the groups to which they had been allocated (LON-CH).

There was an impressive level of independence in the students’ learning; despite being only Year 3, they were more than able to move on to a different activity without prompting when they had finished a task and were ready to try the next (LON-CH).

6.6.3 Reflection

Regarding what she had learnt from her involvement with the group, Ms Hague said that the professional learning group discussions had made her think that although differentiating teaching is hard work, it does “get better results from the kids - their ability to produce work for their actual ability improves” (FII-CH). For her, having the support of a learning assistant and team teaching with the learning development co-ordinator meant that she had learnt from their skills and she reported enjoying having colleagues in her classroom and the opportunity to talk to them about teaching and learning practices.
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When proposing recommendations for colleagues aiming to start differentiating their planning, Ms Hague advocated caution, suggesting that they should:

start off small, not take on too much at once … Maybe pick one subject to differentiate … and then move on to the other things or you’ll do your head in. (FII-CH)

In the final group interview, Ms Hague discussed differentiation strategies a total of twelve times, and included seven different differentiation strategies in her comments, reflecting her well developed classroom practices in this aspect of her teaching (FGI-CH). It was evident that Ms Hague’s statements regarding differentiation were congruent with her classroom practice.

Having described the findings of the professional learning group, a cross case analysis was used to compares and contrast participants’ responses.

6.7 Cross Case Analysis

This cross case analysis examines themes, similarities and differences across the eight teachers in the professional learning group. It explores the reasons they gave to differentiate and reasons not to differentiate; their ideas for differentiation strategies and the challenges they encountered at different stages in the research process. The final section summarises participating teachers’ suggestions to school leaders.

There were more reasons given to differentiate teaching than reasons against (23 for and eight against). At this early stage, only three teachers mentioned reasons against differentiation (CL, GA and HE), suggesting that the group of teachers already held differences in beliefs regarding the necessity for classroom differentiation before the research started. Classifying the reasons given for differentiation showed that at this initial individual interview stage, they were roughly equally divided between theoretical (12) and practical (11) whereas reasons not to differentiate were mainly theoretical (5) as opposed to practical (3).
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Coding the strategies mentioned by participants demonstrated that the most commonly mentioned differentiation strategy was that of setting harder work, a technique mentioned on four occasions by three different teachers. At the very beginning of the research process, it was noticeable that some teachers already mentioned more strategies than others. For example, Ms Hague, the Year 3 teacher, talked about six classroom strategies for differentiation and Ms Lacey, the English teacher, mentioned a total of 11, whereas Mr Abbot spoke about only three and Mr Evans and Dr Oliver only four.

A range of challenges was discussed amongst the teachers at the initial group interview and these different challenges were spread across the teachers. The most frequently mentioned aspect of their working lives that made differentiating teaching a challenge was that of the extra work involved for teachers. Only one possible positive outcome of differentiation was mentioned (giving the students confidence) and it became clear that teachers were not focused on the outcomes of differentiation and the possibilities it could have for affecting students, including improved learning outcomes and their academic progress.

At the initial focus group interview of teachers in the professional learning group, talking about the strategies that the teachers planned to use with their classes led to a rich discussion of differentiation and issues associated with it. The two primary school teachers (Ms Hague and Mr Edwards) were unable to attend the meeting and it was noted that this was the first time that Mr Ashwell was involved in the group, having just arrived at the school. Coding of the transcript from the group interview revealed interesting patterns in the data, which are described below.

During this focus group interview, seven reasons for differentiation were given and seven reasons against. The reasons against differentiating their teaching were proposed only by Dr Oliver (three) and Mr Abbot (four), the latter being noticeably against the idea from the very beginning of the research. Only one theoretical reason against differentiation was put forward, perhaps suggesting that the teachers were not against the idea itself, but that they were unsure about how to actually do it.
Table 13 shows some examples of points put for and against differentiation by teachers during focus group interviews of the professional learning group. Their reasons were classified according to the coding manual as RNP (practical reasons why teachers do not or should not differentiate); RYP (practical reasons why they should); or as RNT (theoretical reasons why they should not or do not) or RYT (theoretical reasons why they should).

Table 13

Examples of reasons teachers gave for and against differentiation

<table>
<thead>
<tr>
<th>Reasons for differentiation</th>
<th>Reasons against differentiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>RYP (Practical reasons for differentiation)</td>
<td>RNP (Practical reasons against differentiation)</td>
</tr>
<tr>
<td>Native speakers of a foreign language need extending</td>
<td>When students are extended beyond their year group, it makes it difficult the following year</td>
</tr>
<tr>
<td>Differentiation makes a ‘difficult’ class easier to teach</td>
<td>It’s very difficult to come up with hard enough questions for very bright students</td>
</tr>
<tr>
<td>With a huge range in the class, it’s necessary</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RYT (Theoretical reasons for differentiation)</th>
<th>RNT (Theoretical reasons against differentiation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>If a student needs and wants to learn something, you can’t turn round and say ”you’re not old enough yet – you can’t learn it now”!</td>
<td>There are huge social arguments against giving students different things to learn</td>
</tr>
</tbody>
</table>

When discussion turned to strategies that teachers could use to implement differentiation in their teaching, a long list of 13 possible strategies emerged. The most numerous list of strategies was given by Ms Lacey (9 different strategies mentioned,
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some more than once, to give a total of 17), closely followed by Mr Ashwell who spoke about 15 different strategies. In comparison, Mr Abbot, who was clearly the most vocal opponent of differentiation, suggested only three. It is possible that a way forward for educational leaders will be to raise awareness of possible strategies that teachers could use in their classrooms.

A range of challenges to differentiation also was mentioned, the most frequently brought up being the challenge of extra work on the part of the teacher. There was little focus on discussing outcomes of differentiation for students, with only Ms Lacey and Dr Oliver talking about how differentiating teaching can affect students’ progress. This suggests that focusing teachers’ minds on the positive outcomes that can result from differentiated practice may be a way for leaders to encourage more differentiation in their classrooms.

Coding the final individual interviews revealed that at this stage of the research, few reasons for or against differentiation were mentioned. It is possible that at this late point, the teachers in the professional learning group were beyond the stage of talking individually about justifying whether or not differentiation should be occurring in classrooms and had moved to make the assumption that teachers should differentiate, so their answers focussed now on the challenges of classroom implementation.

The late stage in the research of the professional learning group’s final discussion could explain the huge increase in mentions of challenges related to using differentiation in the classroom. In the initial individual interviews, 12 challenges were mentioned, compared to 35 challenges being brought up in the final interviews. In the final individual interviews, the challenge of extra work was mentioned on eight occasions by seven out of the eight teachers involved. Four teachers spoke of the challenge of dealing with a range of student abilities (CRA) and five mentioned the challenge of reluctant workers (CRW). Other challenges that were brought up included student visibility (CSV), and subject specific challenges (CSS). It is possible that the increase
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could be attributed to the research increasing teachers’ awareness of the difficulties associated with differentiating their teaching.

Seven different strategies discussed by individuals in their final interviews included having an extra helper in the classroom (SXH- mentioned three times by Ms Hague and once by Ms Lacey); using technology (SUT - brought up twice by Ms Lacey and once each by Mr Edwards and Mr O’Connor) and teacher streaming (STS mentioned by Ms Hague and Mr O’Connor). There were more mentions of outcomes of differentiation than previously, with four different teachers describing positive outcomes for students and both Mr Edwards and Ms Lacey bringing up positive outcomes for the teacher, Mr Edwards pointing out that his involvement in the research project had made him “more aware of the vast range of kids that we’re dealing with” and had encouraged him to reconnect with “more of a variety of teaching strategies” (FII-PE). Mr Abbot and Mr O’Connor were the only two teachers who mentioned negative outcomes for students when teachers differentiate.

During the final group interview, various reasons for differentiation were put forward. Six theoretical reasons and two practical reasons for differentiation were given by four different teachers, with not a single reason given against the issue which compared to seven reasons given against in the initial group interview.

It was evident in the final group interview that more teachers were talking about various strategies for differentiation. Ms Hague alone mentioned a total of 12 strategies, including seven different ones; Dr Oliver talked about a total of 13 (seven different ones) and Mr Edwards discussed a total of 16 (9 different ones). Mr Ashwell spoke of a total of 13 (seven different strategies). These numbers reflected a significant increase in teachers’ awareness of ways in which classroom differentiation can be achieved.

Regarding challenges that made differentiating difficult, the challenge of dealing with a range of student abilities (CRA) was the most frequently mentioned, followed by spoiling future learning (CSF) and that of school operations (CSO) – how practical
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school operations made differentiating logistically difficult. Interestingly, the challenge of extra work on the part of the teacher (CXW) which had previously been mentioned frequently, was discussed only twice in this final group interview.

6.8 Participants’ suggestions to leaders of their school

One very productive part of Phase 2 work with the professional learning group involved participants commenting on how they felt their school leaders could support their bids to differentiate learning in their classrooms. Despite not being school leaders in the sense of having formal positions of responsibility, these teachers exercised considerable leadership in their classrooms and in their collaboration with colleagues. They made many suggestions regarding how those who were leading them could more effectively facilitate the encouragement of differentiation in their classrooms. All the quotations below are taken from the final group meeting in September 2010 (FGI) and the individual interviews carried out between October and December 2010 (III).

Given the widely expressed concern regarding the time necessary to prepare differentiated lessons, several suggestions involved ways in which busy teachers could work more efficiently to pool and share resources. For example, Mr Evans talked of building up a bank of differentiated resources within a department over time and how this might make what was currently a very time-consuming process more viable. Ms Lacey used a pre-prepared booklet of questions to enable her to always have work that students who worked at a faster pace could move onto; she explained that having the booklet prepared at the beginning of the topic meant that the majority of the planning work was done, leaving her to focus on other aspects of her teaching, including differentiation. She was adamant that encouraging the sharing of resources amongst departments would be beneficial, explaining that “the more resources you have, the more you can manipulate them and make them more appropriate for your class”. It is interesting to note that shortly after participating in the professional learning group, Ms Lacey moved to a leadership position in a new school and her influence led to one of their 2012 foci being differentiation in the classroom.
Contrary to Ms Lacey and Mr Evans’ views that time-poor teachers would differentiate given the necessary time, Mr Ashwell was critical regarding the lack of differentiation he felt was currently happening in the school and believed that “the biggest challenge to overcome is teachers’ belief that it is not necessary”. He saw the “laziness” of teachers as hindering their efforts to differentiate and suggested that demonstrating how necessary the process is for successful learning might overcome this challenge. This conflicted with Ms Lacey’s belief that English teachers in particular, given their significant marking commitments, needed to be given a lighter teaching load if they were to be able to plan effectively to differentiate. Her claim was that teaching fewer lessons “would allow for more marking of informal assessments and the development of specific resources”. Mr Ashwell’s beliefs conflicted with Mr Evans’ view that teachers genuinely did not have the time to plan properly. He was adamant that leaders needed to provide more time for teachers to plan. He continued to explain that if leaders have the attitude towards staff that “just a little bit more won’t kill them” and they try to fill every little spare minute with extra responsibility “and mandate more things”, then teachers will not want to comply with requests to institute processes such as differentiation.

Other suggestions for ways in which school leaders could help teachers differentiate their teaching included maintaining smaller class sizes, particularly of the support classes, which included low-achieving students most in need of help with their learning. Ms Lacey suggested that a suitable maximum number in a support class would be 12, enabling her to provide the in-class support and individualised attention from which the students would benefit.

Teachers also mentioned the assistance that they appreciated from ‘Rentas’, students from overseas on a GAP year who sometimes worked with teachers to support specific students or groups of students in their classes and enabled them to cater for their needs more effectively.
The need for effective professional development was frequently cited as a justification for teachers not using differentiation more often. During his final interview, Mr Evans commented that teachers should be given professional development on differentiation – “Teach them how to!” (FII-HE). Having a head of department or other leader who understood the importance of differentiation or was at least able to support their teachers when they requested it was cited as important as was access to information technology. Ms Lacey commented that when she booked an IT room and let the students work on computers, she could “wander around room and can really talk to the students – I really feel I’ve connected with them” (FII-CL).

6.9 Conclusion

This chapter summarised the findings of Phase 2 of the research. Data from group interviews with the professional learning group teachers, individual interviews at the beginning and the end of the research project and classroom observations were included. Five teachers’ detailed, embedded case studies and in-depth reflections on the comments and beliefs of five of those participants revealed an Effective Differentiator (Ms Lacey), a Determined Differentiator (Mr Evans), a Sceptical Differentiator (Mr Abbot), a Reflective Differentiator (Mr Ashwell) and a Practical Differentiator (Ms Hague).

Different teachers reported learning different things from their participation in the research via the professional learning group, including how difficult it can be to “maintain the flow of learning” (FII-HO), how there are many “different ways to go about differentiating teaching and learning” (FII-HE) and that “not all students will necessarily care that you are differentiating for them” (FII-HE). Other descriptions included the benefits of having the support of a learning assistant or team teaching with a colleague and the consequent benefits of discussing pedagogical practices.

The participants’ comments clearly indicated that giving teachers the time to work in groups with colleagues and reflect on their own practice can have major benefits in
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terms of providing encouragement and the structure that enables them to reflect on classroom strategies and share ideas. Although changes in practice may not be immediate, participants evidently found being involved in the professional learning group both a professionally significant and an enjoyable learning experience. This finding is consistent with McDiarmid’s (1995) assertion of the necessity for mental space in which teachers can reflect on their practice.

The next chapter, Chapter 7, discusses the findings and situates them in the literature presented in Chapter 2. Implications of current teaching practices in the school are detailed and the roles of government and school leaders in effecting classroom change are considered. Finally, a model for change is put forward for use by educational leaders at the individual school level.
Chapter Seven: Discussion

7.1 Introduction

The aims of this research were to investigate teachers’ beliefs about excellent pedagogy in their subject area with a particular focus on differentiated instruction, and how these beliefs translate into classroom practice. The researcher also investigated the extent to which a programme of carefully managed lesson observations and subsequent, individualised feedback had an impact on teachers’ classroom practice and their beliefs about differentiation. The research aimed not to involve wholesale transformation of practice via top-down interventions, but to allow teachers to explore areas of personal interest over an extended period of time and reflect on how the changes they made had an impact on their teaching and their students’ learning. This could then be developed into a model for effective leadership of differentiated classroom practice.

The research questions are listed in Figure 28.

RQ1: What are teachers’ beliefs about excellent pedagogy and differentiation in their subject area?

RQ2: What are teachers’ pedagogical practices with regard to differentiation in the classroom?

RQ3: In what ways are teachers’ beliefs and classroom practices regarding differentiation congruent?

RQ4: What impact do group discussion, lesson observation and subsequent feedback have on teachers’ beliefs and classroom practice regarding differentiation?

Figure 28. Research questions.
This chapter discusses the extent to which these aims have been achieved and the implications the findings have both for the case study school and other educational institutions. The chapter begins with a reflection on the research questions and then examines the implications of the findings regarding current teaching practice in schools, both for government leaders and school leaders. The main outcome of the research, presented and discussed in the final section of this chapter, is a model describing effective leadership of classroom change. The first section provides a recap of the embedded case study participants.

7.2 Participant teachers

As described in the previous chapter, the five teachers chosen for detailed, embedded case studies from the professional learning group reflected the range of observed differences in teachers at the school and their wide-ranging beliefs and practices regarding differentiation in the classroom. ‘The Effective Differentiator’, Ms Lacey, already used strategies to differentiate teaching and learning practices in her English classroom and tested and trialled new ideas during the period of research. Mr Evans, ‘The Determined Differentiator’, was very keen and enthusiastic regarding his proposed journalling idea and unwavering in his efforts to make it work. Mr Abbot was initially sceptical about the idea of differentiating his teaching for different students and did not change his views, hence his moniker ‘The Sceptical Differentiator’. Mr Ashwell’s thoughtful approach to differentiating his teaching of mathematics led to his being referred to as ‘The Reflective Differentiator’ and Ms Hague’s pragmatic approach in her Year 3 classroom meant that she was dubbed ‘The Practical Differentiator’.

7.3 Reflections on the research questions

7.3.1 RQ1: What are teachers’ beliefs about excellent pedagogy and differentiation in their subject area?
Data sources for Research Question 1 included the focus group discussions within departments (Phase 1), individual interviews with heads of department and the initial focus group interviews with teachers in the professional learning group.

The findings from Phase 1 of the research (Chapter 5) involved discussions with heads of department and teachers, investigating their beliefs regarding pedagogy and differentiation. These discussions revealed that, in general, teachers did not spontaneously rate differentiation as a significant aspect of pedagogy in their subject area. The sole department to spontaneously mention the need to plan differentiated lessons to cater for the wide-ranging achievements of their students was the physical education department, who reported that the teaching of swimming was possible only if the lesson was differentiated. The fact that other teachers did not report differentiation as a necessary aspect of their work was reinforced in the lack of differentiation seen subsequently during 174 classroom observations in different departments.

The fact that so few teachers mentioned differentiation as vital to successful teaching and learning is inconsistent with recent literature regarding effective teaching and learning practices. In answer to the question “What is effective learning and teaching?” Jensen et al. (2012) explained that while his report does not purport to prescribe a definition in answer to this question, there are “key aspects of teaching that have been shown to improve learning” and the Organisation for Economic Co-operation and Development (OECD, 2009) Teaching and Learning Internal Survey (TALIS) included as one of those key aspects, “teaching practices that emphasise individualised instruction” (p. 15). These practices were not regularly described by teachers in this study.

Hattie’s (2009) clear statement that setting challenging tasks is an aspect of teaching “associated with student learning” (p. 36) implied that knowing individual students’ abilities and achievements is essential. His list of other aspects of teaching approaches associated with successful learning reflected other strategies key to differentiation, including paying deliberate attention to learning intentions and success criteria and
knowing when goals have been successfully achieved, both of which are vital for successful differentiation practices. He concluded:

What is required are teachers who are aware of what individual students are thinking and knowing, who can construct meaning and meaningful experiences in light of this knowledge, and who have proficient knowledge and understanding of what progression means in their content to provide meaningful and appropriate feedback. (p. 36)

Batten and Girling-Butcher (1981) found, perhaps not surprisingly, that building relationships with students was a common attribute of teachers described by students as their ‘best’ teachers. It is clear that without building such relationships, constructing a detailed understanding of each individual student and their learning needs is unlikely. This leads to teachers being unable to plan and implement learning experiences suitable for individuals and, therefore, unable to differentiate their teaching effectively.

Interviews with teachers in the professional learning group revealed that they were fully aware of both theoretical and practical advantages of teaching differentiated lessons despite frequently providing reasons to explain why they did not always differentiate to the extent to which they would like. It was interesting to note that Mr Ashwell was the only teacher who commented that he would try a strategy only if it could be shown to be based on empirical research; the other teachers’ reasons were more often based on their own beliefs developed from classroom experiences or on practical reasons such as a lack of planning time.

In terms of arguing for the advantages of differentiation, positive affective outcomes were often given by participating teachers as a justification for implementing differentiated teaching. Ms Lacey, for example, commented on the self-esteem of the boys being increased when they received regular, differentiated feedback on their work, including getting advice on their first drafts so they could make their own corrections and boost their marks.
Hattie (2009) defined feedback as “information provided by an agent … about aspects of one’s performance or understandings” (p. 174). Although he does provide the caveat that some types of feedback are more powerful than others, it is clear that providing relevant and timely information to the learner helps them learn more effectively.

Mr Ashwell agreed with the importance of setting students up for the demands of subsequent school years and believed that his differentiated teaching strategies meant that students were more aware of the level at which they were working and therefore better able to choose appropriate work for themselves. He spoke of the independent learning skills that his students were developing and claimed that as a teacher, he found it easier to cater individually for students’ needs when they were more used to working independently and without him directly supervising them at all times. He went on to explain that it had become more acceptable for him to differentiate, since the students were used to him working with others and no longer looked to him for supervision.

The reverse arguments, justifying why differentiation is not always possible, generally involved the fact that teachers are time-poor and differentiation is something that does take time if it is to be done well. Mr Evans, for example, noted that his journal of information regarding students’ progress in knowledge and understanding was too onerous to maintain on a long-term basis. He also mentioned the time that he had spent trawling through internet sites, searching through “net junk to get gold”. His approach of keeping journal notes on each student took ten minutes per student per week and he reiterated his belief that he would not be able to keep this up for protracted periods of time. The issue of teachers lacking the necessary time to do their job effectively is a perennial one.

If it is the responsibility of teachers to ensure they are open to professional development that will support them in their quest to teach as effectively as they can, then it must be the responsibility of educational leaders to provide the ‘facilitating structures’ mentioned by Phillips and Raham (2002, p. 65) to enable teachers to continue learning and take advantage of appropriate professional learning opportunities. McDiarmid (1995) defined mental space as “the opportunity for teachers to get away from their
classrooms both mentally and physically to think about their work” (p. 68) and it is this mental space that is often missing in the lives of teachers, both in terms of time and quality of time available.

Given this lack of time, some researchers have put forward suggestions for professional development that, in being collaborative, could both save time and lead to deep learning. Elmore (2002) suggested that professional development “should be designed to develop the capacity of teachers to work collectively on problems of practice” (p. 8), assuming that this collaborative learning would result in more powerful learning. His assertion was that “the essential purpose of professional development should be the improvement of schools and school systems” (p. 8) as opposed to the improvement of the teachers who work in those schools.

Purnell and Hill (1992) listed a number of strategies that can be used to provide teachers with professional learning time, ranging from relatively minor changes such as promoting the more efficient use of time in meetings to major alterations such as rescheduling the school day or increasing the amount of available time by extending participation beyond the usual hours. Such inventive ways to increase the provision of professional learning can allow educational leaders to improve the efficacy of these activities without necessarily incurring huge increases in cost.

Interestingly, although the teachers in the professional learning group were not line managers within the school’s hierarchy, they were keen to suggest ways in which managers could make differentiation a more realistic probability within classrooms and these are discussed later in this chapter.

Not all outcomes of differentiation were positive. Mr Ashwell, for example, commented that in one class, his system of students working at their own pace meant that the students became increasingly dependent on a programme of internet learning and his concern was that this removed the teacher from the learning loop. He claimed
that he sometimes lost track of where the boys were, individually and he felt that this made him less effective when it came to supporting them in their learning. Another negative outcome was reported by Mr Evans, who explained that his frustration with students resulted from their early realisation that improvement would require more effort on their part. Some consequently decided not to invest in that extra effort, seeing the individualised tasks as more work which they were not prepared to do. Mr Evans also found that many students were not used to specific, individualised feedback and found it confronting; he feared that without support and understanding from parents and tutors, his system might not work.

Mr Abbot, who withdrew from the research project early on, had initially commented that although teachers have to differentiate for different achievement levels, pointing out that even with the right approach, there would always be differences in results. In his final interview, he commented that differentiation has a negative effect on all students, even the top achievers who may be annoyed that they’re doing more. He also agreed with other teachers’ comments regarding the enormous levels of preparation and thought required to implement genuine differentiated practices.

The findings presented by Mr Ashwell, Mr Evans and Mr Abbot are not evident in the literature critiquing differentiation and, as such, provide added interest. In conclusion, the data collected to investigate Research Question 1 suggested that teachers’ beliefs regarding what constitutes differentiation and what qualifies as excellent pedagogy are varied. Although few teachers spontaneously mentioned differentiation when questioned about excellence in teaching and learning, when specifically discussing differentiation there was broad agreement that it forms a necessary part of catering for different students’ achievement levels and styles of learning. Despite the reported view that differentiation is integral to good practice, many teachers reported difficulties in the practical implementation of differentiated teaching and learning in their classrooms.
7.3.2 RQ2: What are teachers’ pedagogical practices with regard to differentiation in the classroom?

Data sources for Research Question 2 included trailing two students (Phase 1) for an entire day each and 174 individual lesson observations of teachers in eight departments (Phase 1) as well as individual lesson observations and subsequent coaching discussions with the teachers in the professional learning group (Phase 2).

During Phase 1 of the research, two individual students (one a high achiever and one a low achiever) were each trailed for a day with the aim of observing whether their teachers’ pedagogical practices did include differentiating teaching and learning within their classrooms. Observing the teaching experienced by these two students revealed interesting patterns which are described below.

The low achieving student (Student 1) was observed in three mainstream classes where he was taught in a mixed ability grouping as well as in three support classes where he was taught in a small group of other, low achieving students by a teacher specialising in support groups. It was noticeable that certain pedagogical strategies were used by teachers experienced in planning for support classes, for example giving brief, explicit instructions, frequently modelling behavioural and learning expectations and asking closed questions. These strategies resulted in Student 1 participating more actively during the lesson. Examples of this included him raising his hand to offer a spelling and correcting his own work as the teacher read out appropriate answers. Observing the same student during the three mixed ability lessons in which he learnt alongside peers of varying achievement levels revealed that in this context, there was significantly less structuring and scaffolding of learning activities as well as a noticeable lack of explicit aims of the lesson being given.

Dunne et al. (2007) described key institutional strategies that assisted pupils in low attaining groups. Successful strategies included using differentiated resources but teaching the same topics to all pupils, so that the possibility of changing classes was still
available to them. A key classroom strategy described involved using differentiated resources “to specifically address learning needs of low attaining pupils” (p. xiv). Dunne et al. (2007) emphasised that teachers saw reinforcement as “important to effective learning by low attaining pupils” but said that there was less consensus about whether this was better accomplished through repetition or through new learning activities” (p. xiv). Some teachers considered that frequent repetition of the same material was necessary if the pupils were to understand, whereas others advocated a “greater variety of materials and approaches” (p. 78). Either way, it was clear that teachers agreed that “low-attaining pupils needed more scaffolding and clearly structured activities, broken down into stages. Slower instructions were also needed” (p. 77) and these strategies reflect many of those observed when trailing the less able students from class to class.

A reductionist approach to teaching, in which subject content is broken down into manageable sections, is sometimes derided by the literature. For example, the INCLUD-ED Consortium (2009) described the “impoverished learning environment and poor quality of interaction” in lower streams, which they claimed “deeply affects the academic achievement of low achievers”. They went on to state that “teachers underestimate the capability of students in the low streams” (p. 27). The Westchester Institute (2002) agreed, stating that “instruction in low-track classes is more often fragmented, emphasizing isolated bits of information rather than sustained inquiry” (p. 3), but this criticism did not consider whether such strategies may actually make the subject content more accessible to low achieving students. The idea that making aims explicit and scaffolding learning tasks to ensure that low achieving students can access and successfully understand the material being studied inevitably results in such an impoverished learning environment may be flawed.

Work in Queensland by Lingard, Hayes, Mills and Christie (2003) investigated how the Productive Pedagogies framework can be used both to evaluate classroom practice and to support teachers reflecting on their practice. Their findings emphasised the need for a learning environment which stimulates intellectual activity and for the use of content
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with which the students can identify and engage, particularly when those students may be amongst the most disadvantaged in terms of the social and economic conditions in which they live.

The OECD (2009) report on Teaching and Learning International Survey (TALIS) results noted a “high level of need” (p. 65) for professional development for teachers involved in teaching “special learning needs students compared to other aspects of teachers’ work” (p. 65) and it may be that this is a reflection of the specialised skills required if teachers are to cater effectively for these students’ needs.

The Westchester Institute (2002) also claimed that:

Some researchers say that achievement inequalities between high and low ability students could be reduced significantly by raising the calibre of instruction in low-level classes. (p. 3)

This was followed by the assertion that “Classroom instruction is not just different in high-level classes compared with low-level classes, it is better” (p. 3). The findings indicated that this was not the case in the school under study. Indeed, there were several instances in the school in which heads of department, who might, by virtue of their position, be considered exemplary pedagogical practitioners, chose to teach support classes of low ability students, considering this an important part of modelling good practice as part of their leadership role.

The lack of scaffolding, together with instructions consisting of more than one step and more complex, subject-specific vocabulary, resulted in Student 1 participating less actively in class. Regarding catering for his learning needs, it was observed that in mixed ability classes other than design and technology, almost half the lesson time (47 percent) was spent listening to the teacher as opposed to 27 percent of the time in support classes. Student 1 made fewer active contributions to the class in the mixed ability context – two, compared to the eight he made in the support classes. He also experienced three questions being asked directly of him by the support teachers, compared to only one from all three mixed ability lessons and although it is possible
that having fewer students in the support classes can account at least partially for this, it is likely that the personal attention received during the support class would support his more active contributions to his own learning.

When considering the learning effectiveness of students passively listening to the teacher, Hattie (2012) commented that “classrooms are dominated by teacher talk” (p. 7) and suggested that “the proportion of talk to listening needs to change to far less talk and much more listening” on the part of the teacher if learning is to be more effective. Yair’s (2000) conclusion was similar, that most of the instruction measured in his study of students in Grades 6 to 12 involved teacher talk but that, as a strategy, it resulted in the lowest levels of student engagement.

Dunne et al. (2007) described the difficulty some low attaining pupils had in maintaining concentration in large classes and the strategy of using a teacher’s assistant to work with those pupils, sometimes providing the chance for them to improve their listening skills by focusing their attention on the need to listen to the teacher at relevant times during the lesson.

In conclusion, the findings indicated that teachers specialising in teaching support classes catered more effectively for less able students and one consequence of this was that the students took a more active role during the lessons taught by these teachers. Appropriate pedagogical strategies used by these teachers resulted in the lower achieving students being better able to participate effectively in learning activities. Within the mixed ability classes, the fact that all students were expected to complete identical work reflected the lack of differentiated planning carried out by the teachers involved.

Student 2 was a high achieving student, observed for six mixed ability lessons during the day, as the school did not, at that time, provide streamed classes for high ability students in Year 8. An analysis of the findings revealed that during the lessons observed, Student 2 was expected to spend approximately three times longer on active
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learning tasks than listening to the teacher talking. This was a similar percentage of time to that spent in active learning tasks by Student 1 in support classes, but in sharp contrast to the 53 percent of time Student 1 spent doing active learning tasks when in mixed ability theory classes.

The times when Student 2 appeared to be actively engaged in his learning during the observation day were when he was watched working collaboratively with a peer in an activity involving finding quiz answers in an atlas and during his science lesson, the only lesson during the day where the teacher had planned different tasks for different ability students and Student 2 and his partner were seen to be investigating a more difficult concept.

These observations are consistent with research findings such as those put forward by Felder and Brent (2003) who argued that “we know a great deal about how learning happens and how little of it happens in lectures” (p. 282). They advocated ‘learning by doing’; an active learning approach based on their suggestion that:

… the only way a skill is developed … is practice: trying something, seeing how well or poorly it works, reflecting on how to do it differently, then trying it again and seeing if it works better. (p. 282)

Eison (2012) described teachers employing active learning strategies as follows:

He or she typically will spend a greater proportion of class time helping students develop their understanding and skills and a lesser proportion of class time transmitting information (ie supporting surface learning). (p. 1).

Knight and Wood (2005) described the way in which lecturers who reduced the time students spent listening to a traditional lecture by including more active learning strategies, found that their students improved their conceptual understanding and made significantly greater gains in learning. Chickering and Gamson (1987) also advocated an active learning approach as opposed to expecting students to merely listen to the teacher:
Learning is not a spectator sport. Students do not learn much just by sitting in class listening to teachers, memorizing prepackaged assignments and spitting out answers. They must talk about what they are learning, write about it, relate it to experiences, apply it to their daily lives. (p. 2)

Eison’s (2012) description of teachers “transmitting information” (p. 1) reflected his disdain for pedagogical methods involving students being passive listeners and reinforced Bligh’s (2000) claim that “the lecture method is a relatively poor instructional approach for maintaining student attention” (p. 2).

Seymour (2001) was referring to the reform of the teaching of science, mathematics, engineering and technology when she stated that “the greatest single challenge … remains the problem of whether and how large classes can be infused with more active and interactive learning methods” (p. 79) but her statement could equally have referred to teaching low achieving pupils.

The findings from trailing these two students showed that pre-planned differentiation aiming to cater explicitly for a high achieving student or a low achieving student was rare. Those teachers teaching a more heterogeneous class in terms of student achievement were more likely to implement pedagogical strategies that facilitated the active learning of less able boys but prior planning of different learning activities for different abilities of students was not a frequently observed teacher behaviour.

Although the teachers of the support classes did cater more effectively for the students in their lessons, it appeared to be the reduction of the range of student achievement (through streaming the low achievers into one class) which led to these teachers being better able to plan for the learners’ needs. It was not the case that the support teachers more frequently or effectively differentiated their planning by having different activities for different learners, but that they were more easily able to plan appropriately for their students because of the narrower range of abilities within their smaller support class. This provision of more appropriate learning strategies for different learners may help to explain the conclusion of the Westchester Institute (2002) that streaming
students for reading or mathematics instruction produces greater gains in reading and mathematics than mixed-ability groupings. The situation is unlikely to be this simple, however. Sullivan (2003) emphasised the need for Mathematics teachers to use “realistic contexts in order to make mathematics more meaningful and accessible for all students” (p. 107) but pointed out that the many factors involved make such decisions “complex and multidimensional” (p. 107).

In conclusion, the observations made of individual teachers in eight departments (Phase 1) reinforced the lack of differentiated planning that had already been observed when trailing students 1 and 2 and also showed that differentiation was not common practice within the school. Explicit differentiation for different ability students was not a frequently observed characteristic of teaching. Many staff expressed the desire to differentiate their teaching, but justified the lack of such strategies with reasons explaining why they could not do it.

7.3.3 RQ3: In what ways are teachers’ beliefs and classroom practices regarding differentiation congruent?

Data sources for Research Question 3 included comparing observations made in classrooms (Phase 1) with data from the final group interview (Phase 2).

During Phase 2 of the research, the notes made during observations of teachers and subsequent coaching discussions revealed that teachers in the professional learning group were often acutely aware of their own practice and the reasons that they did or did not differentiate effectively. For example, Ms Lacey commented that her differentiation strategies were possible only because her class was a relatively small one of only eighteen students. Realistically, she reported that the separate homework exercises based on individual students’ levels and the one-on-one help she provided when they were working on a task in class would not have been feasible in a much larger class. Mr Evans said the same of his Year 12 German class, pointing out that it was the fact that
he had only nine students in the class which made his chosen strategy of keeping
detailed notes on individual students’ progress possible. These teachers described how
factors such as small class size enabled congruence between their belief (differentiation
is necessary) and their classroom practice (provision of differentiated activities).

Practising teachers frequently see class size and student success as closely correlated.
Wilson (2002) asserted that the impact of class size on various aspects of pupils’
attainment is “probably the most written about, but least researched, topic in educational
research” (p. 1). Glass (1982) claimed that class size is correlated with student
achievement, smaller classes being more likely to lead to improved pupil performance.
This was attributed to the greater number of opportunities to ensure that teaching
programmes cater for individual needs as well as the ability of teachers to spend more
time with individual students in smaller classes. Wilson (2002) found benefits of
reducing class size included “teachers reporting feeling less stressed and more able to
cope with their workload in smaller classes” (p. 35) and the improved performance in
reading and mathematics tests of pupils taught in small classes of 15 (Finn et al., 1986).

A contrasting finding from a more recent study reported that the effects of smaller class
sizes were not so clear cut. Whitehurst and Chingos (2011) investigated class size
reduction in American schools, justifying their enquiry into a costly strategy which is
one of the few influences on student learning subject to US legislative action. Their
study explored research reporting positive, negative and mixed effects of class size on
pupil attainment and concluded that:

Denitrification there being a large literature on class-size effects on
academic achievement, only a few studies are of high enough
quality and sufficiently relevant to be given credence as a basis
for legislative action. (p. 9)

They also pointed out that “the East Asian nations that perform at higher levels than the
U.S. on international exams have very large class sizes” (p. 8). Similarly, Rivkin et al.
(2005) reported statistically significant, positive effects of smaller class sizes on reading
and mathematics in 4th and 5th grades but little or no effect in later grades.
The Office for Standards in Education (OFSTED, 1995) took a more pragmatic approach, suggesting that if the British Government cannot afford sufficient funds to make class size reduction of significant benefit to students, then such reductions should not even form a major part of the debate on the quality of learning.

It is possible that some of the contradictions in the research findings can be explained by the suggestion that some teachers do not actually change the way in which they teach to take advantage of the fact that they are working with a smaller class (Galton & Simon, 1980). If teachers continue to teach in the same way irrespective of the number of pupils with whom they are working, then it is feasible that there will be no improvements in learning no matter how small their class and regardless of their beliefs regarding differentiation. The comment from Molnar et al. (1999) that a significantly different approach is possible in smaller classes but may not be evident, backs up the findings of Hargreaves et al. (1998) who noted no significant change in teachers’ approaches with different sizes of class.

Alberta (2001) investigated teaching approaches which were successful with small classes and found that practices such as using active, individualised learning approaches, integrated reading, writing and speaking and supporting students’ personal skill development made for effective small class teaching. Wilson (2002) suggested that small classes facilitated more attention being allocated to each pupil individually, which resonates with the comments made by those teachers in the professional learning group who chose to attempt some differentiation in their planning when they had a smaller class with which to work.

The literature regarding the effect of class size on student achievement is described by Wilson (2002) as “at best confusing, sometimes even contradictory” (p. v). It is perhaps not surprising that teachers use a similar approach when teaching different sizes of class given the observation that strategies to teach classes of varying numbers rarely feature in teacher training courses.
Wilson (2002) summarised the findings of her metastudy saying:

Most researchers agree that there is a relationship between small classes and pupil achievement, especially in the early years, some claim that there are more cost-effective ways of providing young children with individualised attention when they most need it. Alternative approaches to organising within-class and across-year groupings, more one-to-one tuition from teachers and classroom assistants during the working day and peer tutoring are alternatives which now need to be evaluated. At present there is no definitive evidence to show which of these is more effective. (p. vii)

The issue of pre-testing or diagnostic testing was also mentioned by a number of participants in the professional learning group. Diagnostic tests (or pre-tests) provide teachers with information about students’ prior knowledge and misconceptions before teaching begins and enables teachers to cater more effectively for those students’ needs. Hackling (2012) described diagnostic assessment as “used to determine students’ existing knowledge about the topic to be taught” (p. 140) and went on to explain that the purpose of it was “so that lessons can be planned to build on the pre-instructional knowledge of students and to challenge their alternative conceptions” (p. 140). If we consider Mezirow’s (2000) description of learning as “the process of using prior interpretation to construe a new or revised interpretation of the meaning of one’s experience as a guide to future action” (p. 5) then it is clear that ascertaining the ‘prior interpretations’ of our students is essential.

Aiming to highlight students that might need more challenging work or more support, Ms Lacey used diagnostic assessment to ascertain her students’ starting position and Mr Ashwell explained that he often used a pre-test at the beginning of a lesson, to indicate to the students which route through the lesson they should subsequently choose. Mr Evans was less likely to use formal diagnostic testing, having taught many of the students in his class in previous years and considering, therefore, that he was already aware of some of their strengths and weaknesses. These teachers believed that the
differences in student ability were important when planning teaching and learning activities and their practices were congruent with these beliefs.

Although differentiated teaching had been found to be a rare occurrence in the school, the range of abilities of students within a class was used as justification for differentiation by some teachers in the professional learning group. The most extreme range of ability was in Mr Evans’ class of Year 12 German students, which included second language speakers working alongside two native speakers of German. Ms Lacey also talked about her English class which included boys who were “on a par with the top set boys” working alongside those who could barely punctuate and were unable to spell commonly used words. The teachers who differentiated were acutely aware of the differences in skills, knowledge and cognition of the students they taught and believed that they needed to cater for them. The professional learning group encouraged more consistency between beliefs and classroom practices and achieved congruence and alignment for some of the teachers involved.

Although Mr Ashwell reported his strategy of students choosing their route through a lesson and how they wanted to learn as an initial success, at the end of his differentiation trial, he pronounced it a failure. He said that it had started well, with the students being pleased that they had a choice of what work to undertake and enjoying the opportunity to use Maths-on-line, but that they became increasingly dependent on Maths-on-line and this removed the teacher from the learning loop. He described the feeling of losing track of where individual boys were and how this made him feel less effective when it came to supporting their learning.

When considering perceived issues with working on different tasks or in different groups, Ms Hague reported no issue with her Year 3 class, explaining that in many cases they were entirely unaware that they were working in different groups other than a few in the higher achieving group. It was not clear whether this lack of awareness could be attributed to the younger age of the boys in this class.
In conclusion, although the participating teachers’ beliefs and classroom practices were not always congruent, they were able to justify the disparity between their beliefs and what could be observed in their classrooms.

### 7.3.4 RQ4: What impact do group discussion, lesson observation and subsequent feedback have on teachers’ beliefs and classroom practice regarding differentiation?

Research Question 4 invited consideration of whether the processes in which the teachers had participated had affected their beliefs and practice regarding differentiation. Sousa and Tomlinson (2011) wrote of teachers’ roles being to “maximize student learning” (p. 8) rather than simply exposing students to content, and consideration of students’ different learning needs is vital if this is to occur. If schools are to invest resources into encouraging teachers to read professionally, try new strategies in their classrooms and accept constructive feedback on their teaching, then evidence that this can have an impact on teaching and learning is also essential to counter the lack of empirical validation regarding differentiated instruction reported by Hall et al (2003).

Data sources for Research Question 4 included observations of individual lessons followed by discussion, feedback and coaching provided to teachers (Phase 1) as well as professional reading given to teachers in the professional learning group and final interviews with teachers to ascertain their thoughts on whether changes in practice or belief had taken place (Phase 2). The coding summarised in Appendix 15 was also used to count the number of times that various aspects of teacher beliefs were mentioned. For example, the frequency of comments which gave reasons for or against differentiation in the classroom was calculated by counting the codes RYT (Reason Yes Theoretical) and RNT (Reason No Theoretical) allocated to initial and final discussions and interviews. A summary of these findings is given in Figure 29. The figures given in the ‘At the start’ column are the sum of both initial individual interview codes and
initial group discussion; the ‘At the end’ column figures are the sum of both the final individual interview codes and final group discussion.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency of mentions at the start of the research</th>
<th>Frequency of mentions at the end of the research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasons to differentiate</td>
<td>34</td>
<td>9</td>
</tr>
<tr>
<td>Reasons not to differentiate</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>Challenges to differentiation</td>
<td>43</td>
<td>69</td>
</tr>
<tr>
<td>Strategies for differentiation</td>
<td>87</td>
<td>85</td>
</tr>
<tr>
<td>Positive outcomes of differentiation</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Negative outcomes of differentiation</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

*Figure 29. Summary of changes in teacher beliefs regarding differentiation, comparing beliefs at the start and end of the research.*

The most striking findings summarised in Figure 29 show that teachers were far less likely to cite reasons not to differentiate at the end of the research than they were at the beginning. They were also much more likely to mention the positive outcomes of differentiation after their involvement in the professional learning group. It is noticeable that they also were more likely to mention possible negative outcomes of differentiation at the end of the research, possibly as their awareness of some of the challenges associated with differentiating their teaching increased. This was reflected also in the increase in the frequency of challenges associated with differentiation being mentioned. The consideration that these teachers were starting to give to the possibility of differentiating their teaching may provide an initial counter to Ireson and Hallam’s (2001) finding that most teachers believed teaching pupils in streamed classes raised academic standards.

The majority of participants who reflected on whether their involvement with the professional learning group had changed their thinking regarding the teaching of
different ability students, reporting that it had raised their awareness of the need for differentiation as well as giving them valuable time to have professional discussions with colleagues which they would otherwise not have experienced. In terms of raising awareness of the needs of different students, this echoed Davies’ (2009) warning that teachers must be aware of “the dangers of ‘one size fits all’ policies”. If differentiation is seen as involving teachers recognising differences between students and planning to take these into account, with the goal of maximising student learning, then these teachers’ involvement with the professional learning group did alter their awareness of their students’ needs. This may form the first step in encouraging those teachers to teach in ways that cater effectively for their students’ different learning needs.

Participants’ reflections showed that providing the time and opportunity for teachers to work with colleagues can evidently be beneficial in encouraging them to reflect on their own practice and share strategies with their peers. The Department of Education and Training, Victoria (2005) pointed out that “the time and effort that is needed to learn how to work as part of a team may increase teachers’ workloads, especially at first” (p. 9) but suggested that this team approach is necessary if teachers are to benefit “by growing their knowledge, skills and confidence” (p. 9).

Elmore (2007) painted a depressing picture when he stated that when considering schools:

It would be difficult to invent a more dysfunctional organization for a performance based accountability system. In fact, the existing structure and culture of schools seems better designed to resist learning and improvement than to enable it … there are few portals through which new knowledge about teaching and learning can enter schools; few structures or processes in which teachers and administrators can assimilate, adapt and polish new ideas and practices; and few sources of assistance for those who are struggling to understand the connection between the academic performance of their students and the practices in which they engage. (p. 4-5)
He concluded that “the brutal irony of our present circumstance is that schools are hostile and inhospitable places for learning”, claiming that because they do not encourage learning, they are by definition “hostile to the learning of students” (p. 5).

On a more positive note, Blase and Blase (1999) listed effective strategies for encouraging teachers to “critically reflect on their learning and professional practice”, including “making suggestions, giving feedback, modelling, using inquiry and soliciting advice and opinions, and giving praise” (p. 130). The researcher was mindful also of their advice that leaders’ suggestions should be “purposeful, appropriate and nonthreatening” (p. 130).

The Australian Institute for Teaching and School Leadership (AITSL)’s National Professional Standards for Teachers (2011) described an exemplary lead teacher and their role in the teaching and learning process. The standards described lead teachers as able to “describe the relationship between highly effective teaching and learning in ways that inspire colleagues to improve their own professional practice” (p. 7) and their statement regarding the role of lead teachers included an implicit message that educational leaders have the power to effect change as they:

… lead processes to support improved student performance through the evaluation and revision of programs, analysis of student assessment data and feedback from parents/carers … combined with a synthesis of current research on effective teaching and learning. (p. 7)

Haefele (1992) reinforced this ability of leaders to produce change, suggesting that the dearth of effective teacher review and evaluation causes significant problems in education:

Ineffective teacher evaluation practices have allowed unqualified persons to assume teaching positions, made it difficult to rid education systems of incompetent and unproductive teachers, failed to provide direction for staff development, not adequately recognized outstanding instruction, and failed to provide evidence that will withstand professional and judicial scrutiny. (p. 335)
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Haefele (1992) referred to practices in which lesson evaluations are provided solely to teachers who show deficits in their practice rather than to all teachers who might benefit from professional dialogue. He pointed out that:

Dislodging the deficit model of teacher evaluation will require a herculean effort. Deeply entrenched, the deficit model has endured and remained uncritically accepted for such a long time that consideration of a radically alternative system has previously been unthinkable. (p. 343)

Changing teacher behaviour is no easy task and considering whether or not behavioural change had been effected by the research was important when suggesting recommendations for future practice. Final interviews with teachers in the professional learning group were revealing in terms of whether those teachers reported changes in their beliefs or practice. During the final interviews, teachers were asked four questions which encouraged them to reflect on any changes that might have taken place in their thinking or their practice. These questions were listed in Figure 14 (Section 4.10).

Giving teachers the time to reflect on their practice and explore pedagogical methods of catering for their students’ varied needs evidently resulted in the provision of many creative and novel suggestions to colleagues. Schools would do well to consider providing professional learning time to enable and encourage this process amongst their teaching staff if they are keen to encourage such context-specific discussions.

Answers to the question regarding how school leadership teams can support teachers aiming to differentiate their teaching were amongst the most detailed and revealing of all those given by teachers in the professional learning group. They were enthusiastic about the opportunity to make suggestions on how they could be effectively led in ways that would enable them to better differentiate their teaching. Their comments and suggestions are detailed in Section 7.6, the role of school leaders in effecting classroom change.

The findings show that group discussion, lesson observation and subsequent feedback can have effects on teachers’ beliefs in terms of encouraging them to carefully consider
their classroom practice and possible changes to it. However, there are significant hindrances that counter some of these effects. If educational leaders are to encourage and support work that changes beliefs and practice in the desired direction, it is important that they are aware of these hindrances so that they can put in place processes that prevent them from slowing appropriate change. A detailed discussion of the hindrances that can prevent desired change from becoming embedded in practice is given in Section 7.7 – Classroom practice – a model for change.

7.4 Implications of current teaching practices in the school

The findings demonstrated that many of the teachers in the school were aware that differentiation in the classroom provides advantages for student learning, yet observations of their teaching revealed that those outside the professional learning group were not putting this into practice. Considering reasons for this lack of congruence may assist in making effective recommendations for changing teachers’ behaviour and encouraging them to differentiate their teaching.

Whilst some aspects of what constitutes effective teaching may be accepted by teachers, Hattie (2009) pointed out that not all teachers affect learning equally:

… it is teachers using particular teaching methods, teachers with high expectations for all students, and teachers who have created positive student-teacher relationships that are more likely to have the above average effects on student achievement. (p. 126)

The challenge for educational leaders is to ensure that as many teachers as possible are having these above average effects on the achievements of their students. Hattie (2009) also suggested that rather than talking about teacher quality, leaders would do better to focus on how their teaching affects student learning.

We need to talk about quality teachers in terms of what they do and the effects they have on students. Too often our discussion on what constitutes quality in teachers emphasizes the personal and professional attributes. Maybe we should constrain our discussion from talking about qualities of teachers to the quality of the effects of teachers on learning – so the discussion about
teaching is more critical than the discussion about teachers …
(p. 126)

The implications of teacher quality are self-evident in that more effective teaching must by definition lead to better outcomes for students. The challenge for educational leaders is to consider the most effective ways to encourage and disseminate good practice amongst teachers. Given the dearth of regular differentiated planning and practice seen at the school under study, it is important to consider how such practice can be supported and increased, both at institutional and political levels. It is both at the school level and the level of the government that educational leaders need to consider ways they can support teachers to implement strategies that ensure continual improvements in pedagogy and hence improvements in student learning.

7.5 The role of government leaders in effecting classroom change

The Ministerial Council on Education (2008) pointed out the need for a range of Australian agencies (governments, universities and schools) to work collaboratively to ensure high quality instructional leadership as well as to enhance pre-service teacher education.

If initial teacher training is to be improved and educational leaders are to effectively influence teachers’ practices, there must be agreement regarding what constitutes effective pedagogy. Levine’s (2006) description of teacher education in the United States of America as “unruly and disordered” (p. 109) did not inspire confidence in a system about which Walsh (2006) was equally scathing: “there is presently very little empirical evidence to support the methods used to prepare the nation’s teachers” (p. 1).

Although there is an abundance of research on initial teacher education, the lack of valid research into the effectiveness of these programmes sits uneasily with some researchers. As long as a decade ago, Wilson, Floden and Ferrini-Munday (2001) bemoaned the fact that there is “no research that directly assesses prospective teachers’ subject matter knowledge and then evaluates the relationship between teacher subject matter
preparation and student learning” (p. 6) and “there is no research that directly assesses what teachers learn in their pedagogical preparation and then evaluates the relationship of that pedagogical knowledge to student learning or teacher behavior” (p. 12). More recently, however, international research findings do show more agreement on what works in classrooms. Hattie (2009) realised the importance of understanding teaching and learning from students’ points of view, commenting that:

Quality teachers, as rated by students, are those who challenge, who have high expectations, who encourage the study of their subject, and who value surface and deep aspects of their subject. (p. 116)

If improvements are to be made in classroom practice, then initial teacher training seems a logical starting point for the process. Clarke and Dempster (2006) pointed out that:

States and Territories are starting to recognize that their role in school improvement needs to shift from an emphasis on driving reforms at the organizational level to creating the conditions and culture for change by looking at teaching and the development of teaching. (p. 27)

Caldwell and Harris (2008) proposed a ten point, ten year strategy for the Australian education system to “ensure that, when all is said and done, people will look back and say a revolution in schools has occurred and all schools can be fairly described as ‘best schools’” (p. 5). As well as various recommendations focusing on the design of a broad and “sufficiently adaptable” national curriculum and appropriate funding for all schools is the suggestion that:

… initial teacher education is transformed to ensure all teachers have a master’s degree and remain at the forefront of knowledge and skill through continuous professional development. (p. 5)

Jensen et al. (2012) summarised characteristics shared by high-performing education systems; much of this précis focussed on supporting teachers to optimise student learning. They reinforced the need to mentor teachers and provide observational feedback to ensure collaboration and the sharing of expertise. They also suggested that
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attracting high calibre people into teaching, training them to be effective teachers and forming a career structure that reinforces effective instruction is essential for the future of the profession.

The lack of using research findings to improve pedagogy is bemoaned by the OECD report (2009) which suggested that the results from TALIS (Teaching and Learning International Survey) show how education is not always:

… transformed by knowledge about the efficacy of those practices. The 23 countries that have taken part in TALIS illustrate the growing interest in the lessons that might be learned from teacher policies and practices employed elsewhere. TALIS provides a first, groundbreaking instrument to allow countries to see their own teaching profession in the light of what other countries show can be achieved. (p. 3)

The authors of the report recognised that different education systems will have different needs and argued that the systems of other countries should not merely be copied, but suggested instead, that:

… comparative analysis can provide an understanding of the policy drivers that contribute to successful teacher policies and help to situate and configure these policy drivers in the respective national contexts. (p. 3)

Hattie (2009) also expressed surprise that initial teacher training currently:

seems so data-free; maybe this is where future teachers learn how to ignore evidence, emphasize craft, and look for positive evidence that they are making a difference (somewhere, somehow, with someone!). (p. 110)

The reforms implemented by the four successful educational systems studied by Jensen et al. (2012) did include providing high quality teacher education, as well as mentoring and regular classroom observation and feedback. This contrasts with current practice in the school involved in this research as well as those across Australia, suggesting that a gap exists between policy and practice. The OECD’s Teaching and Learning International Survey (TALIS, 2008) described mentoring and induction programmes as
poor and reported that new teachers did not receive sufficient constructive feedback on their teaching based on classroom observations.

In an attempt to define the key elements of quality teaching, the Australian Institute for Teaching and School Leadership (2011) published a set of *National Professional Standards for Teachers*. The preamble to the standards reported that:

> The greatest resource in Australian schools is our teachers. They account for the vast majority of expenditure in school education and have the greatest impact on student learning, far outweighing the impact of any other education program or policy. (p. 3)

These standards aimed to “guide professional learning, practice and engagement” (p. 3), assist “the improvement of teacher quality and contribute positively to the public standing of the profession” (p. 3). The key elements of quality teaching to which the standards refer “articulate what teachers are expected to know and be able to do at four career stages: graduate, proficient, highly accomplished and lead” (p. 3). An extract from Standard 3 (Plan for and implement effective teaching and learning) is given in Figure 30.
The extract shown in Figure 30 describes behaviours of teachers with respect to Focus 3.1 – ‘Establish challenging learning goals’. For example, graduate teachers are said to be able to “set learning goals that provide achievable challenges for students of varying abilities and characteristics”; proficient teachers can “set explicit, challenging and achievable learning goals for all students” and highly accomplished teachers are able to “Develop a culture of high expectations for all students by modelling and setting challenging learning goals”. At the highest level, lead teachers can “Demonstrate exemplary practice and high expectations and lead colleagues to encourage students to pursue challenging goals in all aspects of their education” (p. 12).

Providing teachers and educational leaders with such specific, hierarchically arranged statements may enable them to evaluate practice more effectively and choose specific, relevant targets for professional development. The collection and analysis of performance data using such standards and the subsequent accountability to which
teachers are held by their school are likely to have significant effects on teaching and learning.

7.6 The role of school leaders in effecting classroom change

Much has been written about the role of leaders in education. Stewart (2012) wrote of the Organisation for Economic Cooperation and Development (OECD) literature which lists four types of leadership responsibilities which correlate with improved outcomes for students, including the strategic use of resources to focus all activities on improving teaching and learning and supporting, evaluating and developing teacher quality as a key to student success. Stewart concluded that “the single greatest impact comes from promoting teachers’ learning and development” (p. 114). This echoes Robinson’s (2007) description of leaders in higher performing schools being personally involved “in planning, coordinating and evaluating teaching and teachers” (p. 13) and having a greater “leader involvement in classroom observation and subsequent feedback” (p. 14).

Macbeath (2006) stated that leadership needs to have a focus on learning and suggested that the problem is that:

> Learning can be buried so deeply beneath curriculum, testing and an unremitting drive to meet prescribed targets that it makes it both difficult and risky to attend to learning that has any depth. In every country of the study, teachers worried that they would sell their students short if they did not cover the required ground, however superficial that ground might be. (p. 468)

Issues with regard to ‘covering the content’ echoed the concern of Mr Evans, the languages teacher in this study who pointed out that his head of department was not prepared to let him teach in the way he wanted to if it meant that he was behind other teachers in his coverage of the prescribed textbook.

If educational leaders are to make a difference, then they need to focus their efforts on classroom teaching – they need to make a conscious decision to be instructional leaders. Elmore (2007) argued that “the purpose of leadership is the improvement of
instructional practice and performance” (p. 68). He claimed that principals should be regularly working in classrooms with teachers, leading discussions on effective teaching practices and focusing on improving student learning. In a similar vein, making the school’s mission centred on pedagogical improvement is advocated by Fullan (2007) who also reported the importance of principals focusing on instruction.

Fullan (2008) maintained that principals should focus not on “general symbolic stuff” (p. 54) but on practical specific actions such as attending “formal and informal professional learning side-by-side with teachers”. This was reinforced by Robinson (2007) who reported that such behaviours help leaders “to provide instructional advice and expertise thereby gaining greater respect from staff which enables them to have greater influence over how teachers teach” (p. 16).

A New Zealand study by Timperley et al. (2007) described the role of leaders in promoting professional development opportunities which resulted in “substantive positive outcomes for students” (p. 192). Contrary to the frequently encountered practice of sending teachers to professional development days which then fail to translate into pedagogical change in the classroom, they saw the developing of a vision that was “coherent with wider environmental and school policies” (p. 192) as vital. They went on to list such priorities as ensuring “focused and productive opportunities to learn”, promoting “participation in professional communities focused on promoting the teaching-learning relationship in evidence-informed ways” and “promote a challenging learning culture” (p. 192).

As Southworth (2003) described, a poor school culture is where teachers

… are always too busy with the here and now, and they work in schools where time is not devoted to reflection, sharing and professional conversation. (p. 7)

He went on to explain that the result of this lack of time for discussion is teachers’ professional development becoming “severely limited. Moreover it may never be focused on learning and teaching” (p. 7).
Timperley et al. (2007) listed many priorities for professional development, one of which was notably easy and inexpensive in terms of implementation. It revolved around evidence that professional development is more effective when school leaders support professional development opportunities. A strategy as simple as ensuring that in-school professional development is attended by school leaders, learning alongside their staff, can reap significant benefits.

Robinson (2007) investigated five leadership dimensions and found that the largest effect size could be attributed to ‘promoting and participating in teacher learning and development’; the effect size of 0.84 echoed support for leadership participation, suggesting that although facilitating professional learning opportunities for teachers is important, the efficacy of professional development is not merely a case of provision:

The leader participates with his or her staff as the leader, learner or both. The contexts for such learning are both formal (staff meetings and professional development) and informal (discussions about specific teaching problems). (p. 15)

Educational leaders evidently have a vital role to play in the development of professional development opportunities aiming to change classroom practice. There are many other issues of leadership for which Robinson (2007) advocated that educational leaders work directly with their teachers for maximum impact. For example, higher performing schools featuring in her metastudy were more likely to provide useful lesson evaluations, ensure student progress was monitored by classroom teachers and that what they discovered about their students’ progress was used to improve their teaching.

Successful schools were more likely to have a higher “degree of leader involvement in classroom observation and subsequent feedback” (p. 14) and “personal involvement in planning, coordinating and evaluating teaching and teachers” (p. 13). Robinson’s (2007) findings suggest that a hands-on approach from school leaders is an effective way for them to affect teaching and learning.
Hattie (2009) advocated classroom observations followed by constructive feedback as a method of professional development which significantly affects student learning. Hattie’s assertions are consistent with Jensen et al.’s (2012) report on East Asian education systems which noted that:

Teaching is an open profession … Teachers regularly observe their peers. Carefully designed mentoring and teacher evaluation programs make this culture of observation and professional collaboration possible. (p. 25)

The report acknowledged that cultural shifts were necessary to implement similar approaches in Western schools and reported that teachers were now responsible not only for “the learning of their own students, but of all students in their school” (p. 25) as well as for developing other teachers. These changes resulted in teachers being involved more frequently in peer observations and subsequent changes in school culture led to the sharing of good practice as well as the provision of constructive feedback and reflection.

Jensen et al. (2012) described how, in China, lesson observations “underpin the function of professional learning” and stated that “mentors and mentees regularly observe each others’ lessons … Teachers regularly observe exemplary teachers in the school and at district level”. Interestingly, observers are encouraged to focus on student learning and not necessarily merely the teaching they are watching – “teaching should always be observed through the lens of improving student learning” (p. 25).

Adey (2004) reported that “in-class coaching is essential” (p. 16) and continued:

Coaching can take many forms, including … observation-plus-feedback, team teaching, peer-coaching, and video-based feedback. Whatever its format it plays the critical role of bringing the practicalities of pedagogical change into the teachers’ own classroom with their own students. (p. 16).

Lewis Cruzeiro and Hall (2007) emphasised the fact that senior leaders within a school can have significant effects on differentiated instruction, reporting the case of two elementary school principals’ leadership improving the provision of gifted education in
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their schools. They suggested that the main role of the principal is to make sure that all students learn in all classrooms, emphasising the need for teachers to plan for differences between students by differentiating their instruction.

The Department of Education and Early Childhood Development, Victoria (2010) recommended building capacity of professional learning team members and supporting “professional learning teams to investigate and implement exemplary practices that match student learning needs” (p. 9). Advocating ‘substantive conversation’, involving the “sharing of ideas and exchanges that are not completely scripted or controlled” (p. 27), The Department’s publication Coaching Teachers in Effective Instruction also put forward a series of hierarchically organised levels to provide a rubric of the next steps required.

In the study reported in this thesis, teachers in the professional learning group were asked to suggest how school leadership teams could support them to differentiate their teaching. A range of detailed responses gave a plethora of suggestions for educational leaders.

Dr Oliver re-iterated her belief in streaming, saying that it:

… would force teachers to differentiate … If you have a class of really bright kids, or those who are finding it hard work, or a middle set who have a real love for lasers, you find yourself guided by the kids. If they’re working at too slow a pace, they’ll let you know – it’s the same if they’re working too fast – you would modify lessons to take this into account. (FII-HO)

She continued by describing mixed ability as “good in a lot of respects”, but outlined a difficult to deal with science classroom situation in which students were writing a report on an experiment they had completed. She described a class in which one student was struggling to read a results table and another who had finished the entire report including three repeat results and drawn a graph to summarise his results. “You’re juggling the disparate needs of very different kids – how can you help both of them and give them what they need at the same time?” She considered that this mixed ability
situation “wastes a lot of teacher energy in this respect” and if school leaders streamed students into classes according to their levels of achievement, this would improve the ability of teachers to cater for different students.

Ms Hague commented that having a learning assistant in her primary classroom made a significant difference to her ability to perform. “She backs up the teacher even though she’s there for two specific boys, she helps out with the rest” (FII-CH). In Ms Hague’s opinion, having an educational assistant in every classroom would mean she could differentiate more effectively, for example by having more spelling groups with work that catered specifically for the students’ learning needs.

Findings from Mr Evans suggested that there were two ways to support differentiated teaching – to provide professional development which taught teachers how to do it and then to provide them with the time necessary to prepare differentiated lesson plans. “It takes time to prepare a good differentiated lesson, never mind a series of them” (FII-HE). He said that if school leaders believed in “the add on method – ‘just a little bit more won’t kill them’ then every little spare minute could be filled with some further responsibility”. He pointed out that the more certain events were mandated, the fewer people wanted to do it. In some schools, where extra activities were not compulsory, he suggested that all teachers would probably attend but at this school, teachers are “spread so thinly”, they don’t want to get involved in activities and the “last thing they want to think about is differentiation” (FII-HE).

Mr Abbott’s case study documented his re-iteration of the commonly held belief that giving “more time without teaching, to prepare differentiated lessons” was imperative to support teachers in differentiating their teaching. He also listed the provision of smaller classes and streaming, to “make classes more homogeneous” as factors that would help teachers differentiate.
Ms Lacey also advocated the need to maintain small class sizes, mentioning particularly the need for small classes in the case of students requiring support – “a good number for me is a maximum of 12” (FII-CL). She stated also that a lesser teaching load:

… would really help English teachers because of the time that goes into marking – it would allow for more marking of informal assessments and for development of specific resources. (FII-CL)

Sharing resources and encouraging this in departments was also a strategy that Ms Lacey reported leaders could promote if they were keen to support teachers differentiating their teaching, as “the more resources you have, the more you can manipulate them and make them more appropriate for your class” (FII-CL).

Hattie (2009) strongly reinforced the need for teachers to have strong pedagogical understanding if they are to be effective in their practice. He stated:

Teachers need to be actively engaged in, and passionate about, teaching and learning. They need to be aware of, and update their conceptions and expectations of students, and be directive, influential, and visible to students in their teaching … What is required are teachers who are aware of what individual students are thinking and knowing, who can construct meaning and meaningful experiences in light of this knowledge, and who have proficient knowledge and understanding of what progression means in their content to provide meaningful and appropriate feedback. (p. 36)

Jensen et al. (2012) reminded us that “reform of learning and teaching is all about behavioural change” (p. 17). Without changes in the behaviour of principals, teachers and the students they teach, they pointed out that “outcomes are unlikely to change”. Yet they also explained that “it is inherently difficult for policy makers to effect a change in the behaviour of others”. They suggested that people will change their behaviour if “they have a purpose to believe in”, if “role models act consistently” and if “they have the skills and capacity for the new behaviour” (p. 17).
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The findings of Jensen et al (2012) provide useful guidelines for school leaders who, assuming they work with teachers who possess the capacity to change their practices, must provide the purpose and act consistently as a role model for those staff. The large number of thoughtful suggestions put forward by teachers in the professional learning group should give leaders confidence that staff do view leaders as significant in terms of facilitating changes in classroom practice. It is clear that school leaders have an important role to play in the development of their teachers’ pedagogical understanding and practices and teachers themselves recognise this.

7.7 Classroom practice – a model for change

Jensen et al. (2012) neatly classified reforms as “push reforms that propel” or “pull reforms that compel” (p. 17). These categories described how changes to teaching and learning practice can be made either by providing information and support (push) or by requiring the changes to be made (pull). A combination of providing training and opportunities for professional development (push) and setting up clear, explicit organisational requirements in terms of what is stated, monitored and evaluated at the school level (pull) is therefore an effective way to implement change. The report insisted that the reform of teaching and learning is “all about behavioural change” and asserted that “Unless principals, teachers and students change their behaviour, outcomes are unlikely to change” (p. 17). The report, which suggested how the Australian education system could attempt to emulate some aspects of successful South East Asian systems, stated that “reinforcement systems such as performance measures” (p. 17) also must be consistent with the desired changes.

Drawing on the research findings of this study including observations of classroom teachers, suggestions from staff in the professional learning group and the relevant literature, a model for the implementation of classroom differentiation was constructed (Figure 31).
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The model describes the steps that the findings of this research suggest will result in successful change. For example, in encouraging teachers to differentiate their classroom teaching at the planning stage. The model is divided into six stages (Figure 31). In the next section, each stage is described, together with potential challenges to the successful implementation of differentiation in the classroom and suggestions for strategies that leaders could use to support teachers in this regard.
Model for implementation of classroom differentiation

<table>
<thead>
<tr>
<th>Success involves:</th>
<th>Potential challenges:</th>
<th>Leadership support by:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage 1 – Reflective practitioner</strong>  &lt;br&gt;Teacher is thinking, reflective, aware of differentiation</td>
<td>No prior experience of differentiation</td>
<td>• Raising awareness – providing PD books, articles to read  &lt;br&gt;• Justifying the need for differentiation – providing research-based evidence and school-specific data  &lt;br&gt;• Modelling differentiation in the classroom  &lt;br&gt;• Making differentiation part of appraisal and staff review processes</td>
</tr>
<tr>
<td><strong>Stage 2 – Awareness of differing needs</strong>  &lt;br&gt;Teacher realises that students have very different learning needs</td>
<td>Teacher considers that all students have the same learning needs</td>
<td>• Providing learning profiles for those with learning difficulties  &lt;br&gt;• Providing teachers with academic information eg students’ previous results  &lt;br&gt;• Including teaching strategy suggestions on learning profiles  &lt;br&gt;• Modelling pre-testing / diagnostic testing  &lt;br&gt;• Modelling formative assessment</td>
</tr>
<tr>
<td><strong>Stage 3 – Investment of teacher time</strong>  &lt;br&gt;Teacher makes time to think and plan differentiated learning experiences</td>
<td>Teacher perception that extra work will be unreasonably demanding and time-consuming</td>
<td>• Facilitating professional learning groups and providing time for teacher discussion  &lt;br&gt;• Providing departmental meeting time for teachers to ‘show and tell’ successful classroom differentiation strategies  &lt;br&gt;• Facilitating peers working together to plan and share resources which saves time (HoDs facilitate)</td>
</tr>
<tr>
<td><strong>Stage 4 – Experience of success</strong>  &lt;br&gt;Teacher experiences success in the classroom</td>
<td>Teacher sees no learning gains despite their efforts to differentiate</td>
<td>• Modelling differentiated teaching, showing it successfully in action  &lt;br&gt;• Providing research-based evidence that differentiation works  &lt;br&gt;• Observe teachers, support their efforts and give constructive feedback on their teaching, focusing on differentiation strategies</td>
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<tr>
<td><strong>Stage 5 – Feedback received</strong>  &lt;br&gt;Teacher experiences line manager/student/peer approval</td>
<td>Teacher receives no feedback or approval (or negative feedback)</td>
<td>• Set up professional learning groups to provide opportunities for professional discussion  &lt;br&gt;• Include the need for planning, differentiated lessons in performance reviews and appraisal documentation</td>
</tr>
<tr>
<td><strong>Stage 6 – Differentiation is embedded</strong>  &lt;br&gt;Teacher continues to differentiate successfully in their classroom</td>
<td></td>
<td>• Maintain professional learning group discussions, focussing on embedding new practice  &lt;br&gt;• Feedback through performance review process</td>
</tr>
</tbody>
</table>

Figure 31. Model for implementation of classroom differentiation.
Description of the proposed model

Stage 1: Reflective Practitioner

At the first stage of the model presented in Figure 31, an indicator of success is that the teacher is reflecting on their practice. This can be encouraged by team leaders providing time and facilitating structured discussions regarding successful teaching and learning practices, for example, during departmental meetings or professional development sessions. Focussing on the discussion of teaching and learning processes normalises ‘talking about teaching’ and makes it more likely that teaching colleagues will share classroom ideas and resources, thus saving preparation time and making meetings times of meaningful pedagogical discussion.

The Department of Education, Victoria (2005) emphasised the importance of creating:

\[ \ldots \text{organisational conditions that are conducive for teachers to continuously improve their teaching practice by providing encouragement and fostering an environment that values sharing, trust, risk taking, experimentation, collaborative inquiry and self-assessment.} \ (p. 7) \]

The main hindrance to differentiation at this stage is that teachers may have no prior experience of differentiation. Leaders can counter this by raising awareness in a number of ways, for example, providing books or articles to read that justify the need for differentiation may provide a good starting point for discussion of the necessity for differentiation in the classroom. Leaders can also invite teachers to view their own teaching or arrange for them to visit other teachers’ lessons to watch differentiation in practice. Sousa and Tomlinson’s (2011) timely reassurance suggested that differentiation is:

\[ \ldots \text{neither revolutionary nor something extra. It is simply teaching mindfully and with the intent to support the success of each human being for whom we accept professional responsibility. It moves us away from seeing and teaching students as a unit toward reflecting on and responding to them as individuals.} \ (p. 9) \]
The book given by the researcher to the teachers involved in the focus group provides an example of raising awareness, in this case of possibilities for differentiation. The focus group interviews in which participants discussed differentiation also raised their awareness of strategies that colleagues were using in their classrooms and justified the use of such practices.

A potential barrier to success at this stage is that a teacher’s lack of prior experience of differentiation as a process may lead to unsuccessful implementation in their classroom. If a more robust approach is required to supplement the encouragement and modelling provided, then incorporating the need for differentiated planning into appraisal, staff review processes or performance management documentation may form another strategy that leaders can use to ensure their teachers include differentiation in their teaching.

**Stage 2: Awareness of differing needs**

At this stage, teachers likely to be successful in the implementation of differentiation in their classrooms are aware of the fact that their students have differing learning needs. Those teachers who consider all their students the same in terms of what they require to achieve are unlikely to see the need for varying either the curriculum they are delivering or the mode of delivery of that curriculum.

For example, Mr Abbot withdrew from the professional learning group when the three least able boys were removed from his class, as he did not consider that explicit differentiation was required by the other students in that class. Teachers who never genuinely believe that their students differ in terms of their learning needs are unlikely to put in the time and effort necessary to differentiate their teaching.

Nuthall (2005) reported that students in his study arrived at lessons already knowing more than 40 percent of the learning they were about to undertake. Nuthall despaired in his observation that:
Teachers depend on the responses of a small number of key students as indicators and remain ignorant of what most of the class knows and understands. (p. 920)

Whatever strategies leaders use to provide classroom teachers with easy access to academic information such as students’ previous academic results can highlight the very different starting points that students bring to lessons, which can also be demonstrated by modelling formative assessment in the form of diagnostic testing or ‘pre-testing’. Hackling (2012) bemoaned the “over-emphasis on assessment of learning and the under-utilisation of assessment to improve learning” (p. 137) in secondary science teaching and it is likely that this concern is not solely science based.

Leaders aiming to change teachers’ views on the need for a differentiated approach have a number of strategies available to them, including raising awareness of just how different students’ abilities and needs can be. Providing learning profiles with suggestions for teaching strategies is one way in which suitable learning methods can be made explicit.

### Stage 3: Investment of teacher time

To ensure successful implementation, teachers need sufficient time to plan differentiated learning experiences for their students. This is a crucial stage because evidence from this study indicates that the teachers perceive that the extra work involved will be unreasonably time-consuming and demanding. It is, therefore, essential that leaders put in place strategies that will save classroom teachers time and support them in the extra work inevitably involved in the careful, pre-planned catering for different students in the classroom.

A belief that the process of differentiating will take exorbitant periods of time to implement and that this is unreasonable in the life of a busy teacher is a very real barrier and was the most frequently given justification for the lack of differentiation observed in classrooms. For example, Mr Evans, who was acutely aware of the need for
differentiation in the classroom and enthusiastic in his implementation of his strategy to deal with it, maintained that he could not keep up this system over a long period of time, even with only one small class. He was, however, able to contribute suggestions regarding school leaders and their potential role in overcoming this barrier to success.

Interestingly, most of the strategies suggested by professional learning group participants involved middle managers such as heads of department taking a lead role. Providing time in departmental meetings for teachers to share successful classroom differentiation strategies rather than running meetings which involved the dissemination of administrative information was one inexpensive and easily implemented suggestion. Another involved heads of department facilitating teacher peers working together to plan and share resources which would save time for the whole department.

These strategies echo Hattie’s (2012) assertion that the most powerful planning:

… is when teachers work together to develop plans, develop common understandings of what is worth teaching, collaborate on understanding their beliefs of challenge and progress and work together to evaluate the impact of their planning on student outcomes. (p. 37)

Using departmental time for teachers to work together to plan and share resources saves busy teachers time as well as providing the valuable professional learning that results from working in teams and discussing pedagogy. Zeegers et al (2012) set up focus groups with primary teachers planning strategies to encourage students to better understand their local environment. The findings suggested that working in focus groups with colleagues resulted in greater “confidence and interest in teaching science through an environmental lens” (p. 36).

Corrigan & Loughran (2008) recognised that teachers “grow professionally when they are afforded opportunities to engage in professional dialogue with peers and engage in reflective practice” (p. 1). Teachers who are given the time to share successful classroom differentiation strategies with colleagues will gain the added benefit of
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hearing about ideas that they can try in their own classrooms, thus increasing the repertoire of strategies experienced by students.

As Jensen et al. (2012) commented:

School reform is about changing behaviour to improve learning and teaching. Therefore, reform must start by identifying what those behaviours currently are – the state of learning and teaching – and where they should be. Reform can then target the required behavioural change. (p. 15)

This particular reform involves changing the behaviour of teachers in the planning of differentiated curriculum by targeting the main challenge to differentiation; that of a lack of time to plan effectively.

Stage 4: Experience of success

Perhaps unsurprisingly, experiencing success in the classroom was a factor that encouraged teachers to continue with the differentiation strategies that they were trying. Following some success with differentiating his Year 9 mathematics lessons, Mr Ashwell then trialled a similar system with his Year 8 mathematics class and subsequently with his Year 9 computer studies class. His enthusiasm for the process with Year 8 students was palpable:

My Year 8 class is amazing – by teaching at such a differentiated level, I have seen the major problems that my weaker kids have with percentages and this has given them heaps more confidence. (FII-MA)

He went on to explain that this confidence stemmed from the fact that “they can work slower and don’t have to see the hard-type problems”. He claimed that the higher achieving students had also benefited from the system, which had “given the top half of the class the chance to truly be challenged – my brightest boy had a huge revelation that I’ve not seen from him before”. Clearly, this kind of experience serves as encouragement to continue what was obviously a successful process and considering
ways in which these successes can be shared amongst teachers is an essential task for educational leaders.

Other strategies that may convince teachers that differentiation leads to learning success include modelling differentiated teaching so that they can see it successfully enacted in a classroom context. Providing research-based evidence that differentiation works may also help some teachers, such as Mr Ashwell, who required empirical evidence before he was prepared to consider any changes to his practice.

Stage 5: Feedback received

Teachers who receive feedback on their teaching and the learning of their students are more likely to change their practice. Hattie (2009) bemoaned the fact that so few teachers have the opportunity to seek valuable feedback from their students:

The lack of use of student evaluations in elementary and high schools should be a major concern. The stakes are too high to depend on beliefs that quality is high, or that the students are too immature to have meaningful judgments about the effects of teachers on their learning. A key is not whether teachers are excellent, or even seen to be excellent by colleagues, but whether they are excellent as seen by students – the students sit in the classes, they know whether the teacher sees learning through their eyes, and they know the quality of the relationship. (p. 116)

Stewart (2012) reassured educational leaders that their feedback would be received positively by teachers but offered the following caveat:

…they are skeptical if evaluation is performed in an unfair way or by principals who have neither the time nor the expertise to judge effective practice, or when outstanding performance does not lead to any recognition or career advancement. (p. 109)

Feedback is clearly one way in which discussions about pedagogical practices can be initiated. In the context of this research, the feedback provided to participants was in the form of written observation notes from the researcher. The professional learning
group in which the participants discussed their practice also provided opportunities for professional discussion with colleagues.

As well as receiving feedback about teaching, professional discussions regarding teaching and learning are valuable in terms of learning. They are not restricted to any particular time or place; Southworth (2003) described how:

… professional dialogues occur in a variety of settings. Staff meetings, the preparation and agreement of school policies, reviews of practice, analysis of data and planning meetings are just some of the many occasions when staff talk and discuss practice. However, when leaders follow up these more formal occasions with informal visits to colleagues’ classrooms these too are influential. (p. 10).

The opportunity for school leaders to set up professional learning groups to provide opportunities for teachers to discuss successful classroom teaching strategies is one which is missed in many schools and the potential for teachers to learn from each other is often underutilised. Such in-house professional learning is both cost-effective and influential as colleagues have credibility through working in the relevant context.

The assertion of Jensen et al. (2012) that effective teaching is often not recognised rings true here. If it is the case that:

… nearly three-quarters of teachers – and 90 percent of Australian teachers – say they would receive no recognition if they improved the quality of their teaching or were more innovative in the classroom. (p. 12)

then the incentive for improvement may well be missing.

Whether or not it is linked to pay, the requirement to plan differentiated lessons can be included in performance reviews and appraisal documentation. Knowing that they will have an annual professional discussion with their team leader in which they will be asked to describe the differentiation practices they have used in their classrooms will be a further incentive for teachers to consider their practices in this regard.
Other researchers have investigated whether pay structures can affect classroom practice. Phillips and Raham (2002) wrote of financial incentives “for teachers to continuously improve their teaching abilities” (p. 93) and Hassel (2002) suggested that changing teacher behaviour might be possible with the implementation of a “knowledge- and skills-based salary system” (p. 10) which they asserted could improve teaching by providing an incentive for some teachers to remain in the profession if they received rewards for their contributions as well as leaving “those teachers who do not demonstrate the valued capabilities … more inclined to seek other employment” (p. 11).

Visiting and observing those teachers who are attempting to use differentiation in their classrooms is essential. Providing constructive feedback to support their efforts fits many of the research findings already described, although if it is solely from the point of view of a school leader, the opportunity to learn from students’ experiences is missed. Murphy et al. (2008) described learning-centred leaders as devoting “abundant time to supporting colleagues in their efforts to strengthen teaching and learning in and across classrooms” (p. 12) and Hattie (2009) pointed out that although student ratings regarding the quality of teaching can be positively correlated with learning outcomes, “the feedback that is provided to teachers rarely leads to improvements in their teaching or the effectiveness of the courses” (p. 115).

It is important for school leaders to reassure teachers that they are realistic in their hopes for the implementation of strategies such as differentiation in the classroom. It is neither realistic nor possible for a teacher to differentiate their planning to the extent that they provide individualised learning experiences for a full class of pupils. However, there are relatively minor changes to practice that can translate into significant learning differences for those pupils and making these explicit can provide reassurance to classroom practitioners. For example, Sousa and Tomlinson (2011) provided such reassurance in Differentiation in a Nutshell, explaining that:

Effective differentiation does not call on a teacher to be all things to every student at all times of the day. Rather, it calls on teachers to be consistently mindful of three things: (1) how their...
Stage 6: Differentiation is embedded

When all these factors have been considered, the desired outcome is for differentiation to become embedded in teachers’ classroom practice. To this end, leaders’ efforts at this stage should focus on facilitating professional discussions that reinforce and, therefore, embed new practice as well as providing feedback via performance review or appraisal processes. As Guskey (2002) suggested, “support coupled with pressure is essential for continuing educational improvement” (p. 388), a timely reminder that even if implementation has been successful, the work of leaders is by no means over if they are to avoid the many factors which Guskey claimed “can snarl the change process” (p. 383). Supporting teachers who have made changes “allows those engaged in the difficult process of implementation to tolerate the anxiety of occasional failures” and is necessary until the new practices become a “natural part of teachers’ repertoire of teaching skills” (p. 388).

Murphy et al. (2008) commented that learning-centred leaders understand “that communities of professional practice offer the most appropriate cauldrons for professional learning and the forging of new instructional skills” (p. 18) and it is this professional discussion that will help embed new teaching and learning strategies.

7.8 Conclusion

In summary, this chapter reported the investigation of teachers’ beliefs regarding whether differentiated instruction is important in their classrooms, to what extent they used differentiated teaching in practice and the degree to which observation and feedback had an impact on their teaching practice. Reflections on the four research
questions were presented and the role of government and school leaders in effecting classroom change was discussed. A proposed model for the implementation of differentiation was described and explained.
Chapter Eight: Conclusion

8.1 Introduction

The study reported in this thesis aimed to investigate teachers’ beliefs about differentiation and how these beliefs were evident in their classroom practice. The second aim was to investigate how a programme of lesson observation, feedback and professional discussion could affect teachers’ beliefs about differentiation and subsequent classroom practice.

This concluding chapter presents an overview of the study and a summary of the findings of the research. Contributions to the literature are discussed and the implications for stakeholders at different levels are detailed. The final sections of the chapter outline the limitations of this research and make recommendations for future research.

8.2 Overview of the study

The rationale underpinning this research was that effective planning for differentiation is one of the hardest pedagogical issues facing a classroom teacher on a day to day basis. Although every class by definition is populated by a range of students of varying aptitude, ability and achievement level, the educational research into how leaders should support teachers to manage this effectively is limited.

The literature review conducted to inform this research revealed that differentiation is necessary if teachers are to cater effectively for the wide range of student achievement levels present in a mixed ability classroom. Catering for different students’ abilities is an essential part of what constitutes excellent pedagogy, yet differentiating a lesson at the planning stage is challenging for time-poor teachers who may also not fully understand its importance. Resources and programmes to assist teachers attempting to
LEADING CHANGE – EXPLORING STRATEGIES FOR CHANGING PEDAGOGICAL PRACTICES

differentiate their teaching are not readily available and many teachers simply do not have the time to carry out their own investigations.

The research reported in this thesis was undertaken in an attempt to fill the gap in the educational literature regarding practical but evidence-based ways in which school leaders can influence changes in classroom pedagogy such as by supporting teachers as they work to differentiate their teaching.

The research was conducted within the interpretive paradigm which was consistent with the aim of the study and the research questions. A qualitative, case study research design involved two phases conducted in one school – Phase 1 involved the researcher in trailing one low achieving and one high achieving student in their normal classroom contexts to explore the extent to which they experienced differentiated teaching and learning during their day. This phase also included focus group interviews with teachers in departmental groups to establish whether they believed there was a perceived need for differentiated teaching in the school. One hundred and seventy four individual lesson observations were conducted and feedback discussions held with teachers after each observation. Phase 2 consisted of working with eight volunteer teachers to promote professional reading, group discussion, lesson observation and feedback to investigate whether these strategies affected their classroom practice or views on differentiation.

8.3 Summary of the findings

The data collected to investigate Research Question 1 showed that differentiation was not frequently mentioned by teachers when questioned about excellence in pedagogy. Regarding Research Question 2, trailing the high and low achieving students as well as classroom observations during Phase 1 of the research revealed that planning to differentiate teaching and learning was not commonly observed within the school. Focus group interviews with teachers in their departments further revealed that differentiation was not perceived to be an essential aspect of effective teaching. Work
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with the professional learning group teachers during Phase 2 of the research reflected teachers’ enthusiasm to try differentiation strategies but brought to the surface their frustration with the challenges the new practices revealed.

Investigating Research Question 3 found that teachers’ beliefs and classroom practice were not always congruent but that they were often aware of the disparity between the views they reported and the teaching practices they achieved in their classrooms. The findings related to Research Question 4 revealed that teachers’ beliefs and practice can be affected by professional discussion and feedback related to their teaching, based on lesson observations. It showed also that hindrances that prevent classroom differentiation need to be removed by educational leaders if they wish to effectively support differentiated practice in teachers’ classrooms.

A central role of teachers’ professional learning must be to promote pedagogical change and if leaders are to empower teachers to face the challenges involved in that change, they must consider strategies which make the challenges surmountable. The challenges faced by the teacher participants included a lack of prior experience of differentiation and a lack of understanding that students have different learning needs. The perception that there would be considerable extra work involved on the part of the teacher was also a hindrance which was not helped by the dearth of feedback from leaders.

Exploring teachers’ beliefs regarding differentiation and the need for instructional practices to cater for different students within their classes resulted in a range of insights regarding the challenges met by teachers and ways in which their work can be effectively supported by leaders. These insights translated into a meaningful model which can be used to guide school leaders as they attempt to lead change and influence classroom practice.

The findings led to the development of a research-based model detailing strategies that leaders can use to support teachers embracing such pedagogical change. Such models based on rigorous research are not common. This model includes recommendations that
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leaders get involved in providing professional reading materials, making differentiation part of appraisal and review processes, providing classroom teachers with data that support the need for differentiation and encouraging professional discussion groups. Each of these strategies was described and discussed.

8.4 Implications of the study for theory

The study reported in this thesis makes a number of contributions to educational research. In terms of contributing knowledge, it described how carefully managed lesson observations and constructive feedback could be used to influence school pedagogy in the Western Australian context.

Published research related to influencing change in classrooms revealed areas into which researchers seem rarely to have ventured. Suggestions have been put forward regarding how professional learning can be made more effective, but an extensive search of the literature revealed no studies that specifically explored the issue of how leaders can support teaching staff in their quest to cater for the diverse range of students with whom they work every day in their classrooms. By providing suggestions in the form of an evidence-based model for educational leaders about how to support teachers to differentiate their teaching, this study fills an important gap in the literature.

In terms of contributions to knowledge, the proposed model puts forward strategies at specific stages for instructional leaders to implement when planning to influence classroom practice through professional development or professional learning activities.
8.5 Implications of the study for teaching and learning

The findings of the research have implications for a number of stakeholders. For the school involved, it was clear from their reflections that the teachers participating in the professional learning group had learnt a lot about differentiation and it is likely that their pedagogy improved as a result of participating in the group. Whilst measuring student learning outcomes resulting from the professional learning was not part of the scope of this study, it is likely that many students benefitted from the teachers’ enhanced views of effective pedagogy and consequent improvement in their classroom practice.

The research also contributed protocols that could be used immediately to facilitate lesson observations and give constructive feedback to practising teachers. Strategies are included to normalise the practice of formal lesson observations within educational institutions and professional learning activities that enhance teachers’ opportunities to be critically reflective practitioners are described. Although this may be a threatening prospect for some, the Department of Education, Victoria (2005) emphasised the need for teachers to work:

… in a spirit of openness and critical reflection, sharing their experiences, ideas and expertise with each other and engaging in an ongoing process of inquiry that promotes deep team learning.

(p. 9)

This team work can initially be difficult for teachers “because it is in conflict with the norm of autonomy that has historically characterised the work of teachers” (p. 9). In terms of teaching and learning, it became evident that although teachers believed in the importance of differentiation as a strategy to enable students to achieve the best results they could, various hindrances to their implementation of differentiated teaching in the classroom existed. For school leaders, the proposed model may assist them in identifying hindrances that can slow or derail the influence on classroom practice.

When considering how other schools can use the findings from this research to improve
their teachers’ future capacity for differentiated teaching and learning, the proposed model for classroom change provides an ordered structure for educational leaders to develop suitable strategies and processes to support teachers in their schools. A key finding from the research of Barber and Mourshed (2007) was that “the quality of an education system cannot exceed the quality of its teachers” (p. 16) and few could argue against the assertion that improving the quality of teaching is essential if the quality of student learning is also to be improved.

The findings of this research reflect the probable need for professional capacity building in many schools. The lack of awareness revealed in Phase 1 of this study regarding the need for differentiation and its associated benefits reinforces the need for teacher leaders to understand their teachers’ current understanding of pedagogical issues if they are to effectively develop them. Care should be taken that leaders do not “assume that teachers know how to do things that they don’t”, nor overwhelm teachers “by too many reforms”, nor fail to “achieve teacher buy-in” (p. 51), as cautioned by Stewart (2012).

In terms of future directions, for the case study school and others, many of the strategies put forward have the benefit of being relatively inexpensive. Schools which cannot afford to provide individual professional learning resources for their teachers have easy and free access to a plethora of on-line publications. Encouraging middle managers such as heads of department to change the focus of their regular meeting times to concentrate on classroom teaching and learning may merely be a case of modelling how this can be done and supporting them to plan a more productive focus on teaching and learning rather than on the dissemination of information and other administrative matters.

Stewart’s (2012) descriptions of giving teachers time each week to work on their lesson planning provided an insight into practices used in East Asia and suggested that much could be learnt from the system already in place in “high-performing and improving countries”, in which:
all beginning teachers receive mentoring assistance for a year or two, and all teachers have time to observe other teachers’ classrooms and participate in organized professional development that is tied to either school improvement or career development or both. (p. 106)

Stewart (2012) also described the way that teachers work collaboratively on a weekly basis as well as opening their classrooms to colleagues as a matter of routine, resulting in “consistent instruction and a way to disseminate new curricula that produces consistent practice across large numbers of schools” (p. 89). Providing regular times for teachers to work collaboratively and professionally with each other is a strategy that invites exploration in the Australian context.

Schools with limited budgets should take solace from the thought that expensive professional learning opportunities involving costly travel to distant places are not necessarily the most effective method of professionally developing teachers. Hudson and Hudson (2011) described mentoring as a way of building teachers’ capacity and this can clearly be implemented without significant cost. Their work described distributed leadership and the effectiveness of professional learning communities in detail – systems in which organisations build the capacity of their staff by setting up times for them to work collaboratively in a structured setting, to explore pedagogy and share teaching and learning experiences.

This reinforced Harris and Jones’ (2010) assertion that the establishment of professional learning communities in schools does enhance student learning because it serves to make explicit what constitutes effective teaching practices and leads to what Stoll (2010) termed “long-term cultural change in an organization” (p. 157). This emphasis on consistency in professional practice contrasts with current practice in many Australian schools and is an area which educational leaders would do well to explore in the context of their own schools.

Carroll (2007) investigated what he termed ‘supervision’ as opposed to mentoring, and discussed this in the context of what clinical supervision can offer modern day
professionals. He suggested that the important consideration should be what supervision can do “to provide trainees, professionals and professions with what they need to do their job better” (p. 2). He considered supervision a “conversation about a conversation” and explained that critical reflection involves making “meaning of events and behaviours” (p. 3). When initial teacher training has finished, however, it is rare that the busy life of a classroom teacher enables such personal contemplation on daily occurrences and any strategies that schools can put in place to support this continued reflection would be valuable.

A relatively small investment in time and focused discussions can have a long-lasting effect on the beliefs and practices of teachers. This snowballing effect was seen with Ms Lacey, one of the teachers involved in the professional learning group, who left the school to take up a management role in a different state and communicated with the researcher to explain that she was initiating a focus on differentiation at her new school the following year. This is a case of one teacher having considered differentiation during the research project and now becoming a middle manager, therefore, in a position to be able to influence other teachers in a desired practice.

Hattie (2009) listed “aspects of teaching approaches that are associated with student learning” (p. 36). These included “planning and talking about teaching”; “paying deliberate attention to learning intentions and success criteria” and “ensuring the teacher constantly seeks feedback information as to the success of his or her teaching on the students” (p. 36). Although it is relatively easy to list such approaches, the question of how to improve classroom teaching is more difficult. The literature reviewed and the findings from this research suggest that providing feedback from classroom observations is a powerful way to effect improvements in teaching and learning. But it cannot be assumed that classroom observations and feedback can be carried out by untrained observers, however well-meaning. As Sartain et al. (2011) asserted:

> If two primary objectives of evaluations are to provide teachers with information that they can use to improve their teaching practices and to provide teachers with evaluation ratings that accurately capture their classroom performance, then research...
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confirms that traditional evaluation systems are broken. They typically fail to provide teachers with the information they need to make timely and effective improvements in their instructional practice. Often, they rely upon a single observation by a principal, who is minimally trained as an evaluator. (p. 3)

It is necessary for those providing feedback to teachers to be well trained in the practice. Sartain et al. (2011) stated, “when used intentionally, classroom observation data can help improve instruction” (p. 30) and this should be the aim of classroom monitoring and evaluation – to improve teaching practices. As the Department of Education, Victoria (2004) suggested, “Teachers cannot be expected to create vigorous learning communities among students if they have no parallel community that nourishes them professionally” (p. 8).

A further step worthy of consideration is the issue of teachers not making the most of data from research and how this can be rectified. Little (2007) commented that because much of a teacher’s work is carried out in isolation, the way in which they build a common understanding of what goes on is through the use of narratives or stories rather than through looking at scientific evidence. In an attempt to counter this reliance on anecdotal evidence, the Department of Education, Victoria (2005) emphasized the need for professional learning to be “informed by the best available research on effective learning and teaching” (p. 14). Hattie (2009) also lamented the lack of application of such research in the classroom and suggested possible reasons for this:

We have a rich educational research base, but rarely is it used by teachers, and rarely does it lead to policy changes that affect the nature of teaching. It may be that the research is written in a non-engaging style for teachers, or maybe when research is presented to teachers it is done in a manner that fails to acknowledge that teachers come to research with strong theories of their own about what works (for them). Further, teachers are often very “context specific”, as the art for many of them is to modify programs to fit their particular students and teaching methods – and this translation is rarely acknowledged. (p. 2)

Educational leaders can consider whether the best way to encourage teachers to keep up to date with published research and use its findings in their everyday work is through the provision of appropriate professional reading, time for professional development or
the setting up of professional learning groups with a focus on analysing research findings and how they can be applied in the classroom. Hattie (2009) referred to teachers “seeing learning through the eyes of students” (p. 252) as an excellent way to start considering whether teaching is effective.

The Department of Education, Victoria (2005) stated that “professional learning needs to be ongoing, long-term and sustained” (p. 15) as it can take months or years for long-term changes in practice to take place. Elmore (2002) also suggested that professional development needs to have clear, specified outcomes. His view was that if it is to be effective, professional development activities should take a similar format to that of a well planned lesson, and that deliverers should state:

- explicitly what new knowledge and skill educators will learn as a consequence of their participation,
- how this new knowledge and skill will be manifested in their professional practice, and
- what specific activities will lead to this learning. (p. 8)

Such a format would undoubtedly assist teachers to judge professional development and evaluate its usefulness in terms of how it affects their classroom practice.

In terms of educational leaders, their need is to consider how, in their own specific context, they can remove the challenges that are proving a barrier to best teaching and learning practice. Detailed proposals regarding how leaders can support teachers to improve their pedagogy are included.

### 8.6 Limitations

Even though the researcher’s thinking was influenced by having worked in different educational institutions and jurisdictions, an important limitation of the study reported in this thesis is that the research was conducted in only one school; Phase 1 was limited to the trailing of two students and the observations of 174 teachers and Phase 2 was limited to a focus group of eight teachers. It is, therefore, possible that the findings may not be applicable to other contexts such as public schools or co-educational settings.
The fundamental aim of case study findings, however, was not generalizability. Cohen et al. (2011) stated that “in analytic generalization, the concern is not so much for a representative sample … so much as its ability to contribute to the expansion and generalization of the theory” (p. 294) and went on to summarise that “A case is not a sample” (p. 294). Yin (2009) pointed out when referring to case studies, the “analogy to samples and universes is incorrect” (p. 43) as ‘analytical generalization’ involves a researcher “striving to generalize a particular set of results to some broader theory” (p. 43). The concern that the results from this research may not be applicable to other school contexts is therefore not one which detracts from the findings and their use; the findings are consistent with the paradigm.

Yin (2009) asserted that although participant observation “provides certain unusual opportunities for collecting case study data … it also involves major problems” (p. 112). The researcher’s employment at the school may have resulted in some bias but Chapter 3 provided details of the extensive measures taken to avoid this, including a detailed and comprehensive process used to develop a coding manual, the use of an external auditor and member checking. The researcher is confident that the findings are trustworthy.

Further strategies utilised to reduce the limitations of the case study design included adhering to Yin’s (2009) ‘basic techniques’ of a case study, including using pre-written protocols for interviews and group discussions. The characteristics of an exemplary case study listed by Yin (2009) which aim to help a case study that is “a lasting contribution to research” (2009, p. 185) included the study being of significance, displaying sufficient evidence for a reader to “reach an independent judgement regarding the merits of the analysis” (p. 188) and being composed in an engaging manner, clearly written and which “constantly entices the reader to continue reading” (p. 189). These principles were considered at each stage of the planning and writing process.
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The limitations of using a case study also were countered by the use of multiple data gathering methodologies in a pragmatic approach (Denscombe, 2008) which included the use of focus group discussions, detailed observation notes, semi-structured interviews and individual interviews and trailing students. At all times, detailed observation notes were taken and these were read multiple times during the analysis phase, until themes emerged.

The researcher has also justified and made explicit the processes used when collecting and analysing the findings, to ensure that the reader can judge for themselves the trustworthiness of the research; an ‘audit trail’ has been established (Guba & Lincoln, 1981).

8.7 Suggestions for future research

A number of future directions can be suggested as a result of these research findings. Given the limitation of having conducted research in only one school, the next step must be to test the use of the proposed model in other types of schools. For example, how can the model be used effectively in schools where teachers are reluctant participants in professional learning opportunities?

The model’s efficacy also invites investigating in targeting pedagogical practices other than differentiation. For example, educational leaders aiming to introduce a particular educational programme could use the model as a way of effectively supporting teachers with its implementation; removing potential hindrances and providing professional support using the suggestions provided by the model.

When considering the provision of feedback to teachers on their classroom practice, further research could investigate how recording video footage of teaching and learning taking place in classrooms could be used as a form of professional learning. Some teacher training institutions already use this as a means of providing detailed, visual feedback to those on their teaching practicum and including this as a strategy for
professional learning for experienced teachers would be a valuable addition to many schools’ professional development activities. The Australian Institute for Teaching and School Leadership (AITSL) has already realised the potential of using video footage of best practice as a basis for professional learning and has started to build up a collection of filmed lessons and sections of lessons for this purpose.

Modern digital video cameras make it relatively easy for those who are not media specialists to make good quality recordings of classroom observations and developments in information and communication technologies mean that digital storage of such footage is possible. Building up collections of filmed lessons and parts of lessons in a particular school would enable educational leaders to refer to issues relevant to the specific context of their individual school and provide highly specialised and contextualised professional learning opportunities to their teaching staff.

Such research involving the use of video recordings for professional learning purposes would need to develop protocols to ensure ethical practices are adhered to and participants are at ease with the procedure.

In terms of effective professional development, the Department of Education, Victoria (2005) suggested that professional learning for teachers should be “ongoing, school-based and directly relevant to the daily work of teachers” (p. 4). Effective schools are defined by “purposeful teaching and high expectations for student learning”; they “focus on teaching and learning” (p. 7). It would not be difficult for educational leaders to explore ways of evaluating the professional learning that their teachers undertake in terms of its efficacy in influencing classroom practice.
8.8 Concluding remarks

Novak (2009) suggested that the best way to realise human potential is with:

… places, policies, processes and programmes specifically designed to invite development and by people who are personally and professionally inviting with themselves and others. (p. 55)

The model proposed in this thesis aims to help teachers achieve their potential by suggesting structures and processes for educational leaders to put in place to support and encourage pedagogical change.

The “strategic use of resources to focus all activities on improving teaching and learning” (p. 114) was listed by Stewart (2012) as one of the leadership responsibilities which is inextricably linked to improving outcomes for students and the proposed model has a strong focus on improving teaching and learning. Professional learning in education often takes the form of expensive external courses that are not directly related to classroom practice and pedagogy and which, perhaps unsurprisingly, contribute little to pedagogical change. Educational leaders would do well to focus instead on developing the capacity of middle managers to implement strategies including lesson observations and feedback to improve teaching and learning in their schools.

Since this study, the researcher has changed schools and is leading change and influencing classroom practice by implementing the strategies suggested by the findings presented in this thesis. Facilitating an in-house professional development day of workshops run entirely by colleagues with an emphasis on sharing classroom practice resulted in significant, positive feedback. This outcome echoes Grimmett and Echols’ (2001) report that on-site professional development encourages teachers to examine their values and practices in the context of their own situation, forming the building of “a collaborative culture in the school, one in which administrators and teachers are encouraged to lead and learn from one another” (p. 16).
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Murphy et al. (2008) described learning-centred leaders as demonstrating “a dedication and a willingness to assist teachers in strengthening their instructional skills” and creating “procedures that nurture … informal learning throughout the school, mechanisms that promote the exchange of professional dialogue about strengthening instruction and improving the school” (p. 17). At her new school, the researcher has set up a new professional learning group which has involved optional, after school discussions entitled ‘Talking about Teaching’, revolving around different themes of pedagogy such as formative assessment and differentiation. As Whitaker (2012) pointed out, “Leading change can be a daunting task” (p. 63) but the fact that thirteen teachers chose to attend such a discussion after school immediately before leaving for the Good Friday long weekend may be a reflection of the hunger that good teachers have for constructive professional discussion. It should also provide hope to educational leaders that constructively influencing classroom practice is possible in schools today.
Appendix One

Consent forms for teacher participants and principal

Participant Consent Form

Research Project: The impact of lesson observations and feedback on differentiation in the secondary school classroom.

I (the participant) have read the information provided and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realising that I may withdraw at any time without reason and without prejudice.

I understand that all information provided is treated as strictly confidential and will not be released by the investigator. The only exception to this principle of confidentiality is if documents are required by law. I have been advised as to what data is being collected, what the purpose is, and what will be done with the data upon completion of the research. I agree that research data gathered for the study may be published provided my name or other identifying information is not used.

Participant’s full name (please print)

Participant’s signature __________________________ Date __________________________

The Human Research Ethics Committee at the University of Western Australia requires that all participants are informed that if they have any complaint regarding the manner in which a research project is conducted, it may be given to the researcher or, alternatively to the Secretary, Human Research Ethics Committee, Registrar’s Office, University of Western Australia, 35 Stirling Highway, Crawley, WA 6009 (telephone number (+61 8) 6488 3703).
**Principal Consent Form**

**Research Project: The impact of lesson observations and feedback on differentiation in the secondary school classroom.**

I (the Principal) have read the information provided and any questions I have asked have been answered to my satisfaction. I agree to my staff participating in this research, realising that they may withdraw at any time without reason and without prejudice.

I understand that all information provided is treated as strictly confidential and will not be released by the investigator. The only exception to this principle of confidentiality is if documents are required by law. I have been advised as to what data is being collected, what the purpose is, and what will be done with the data upon completion of the research. I agree that research data gathered for the study may be published provided names or other identifying information are not used.

_____________________________     _____________________
Principal’s full name (please print)

Principal’s signature                                            Date

The Human Research Ethics Committee at the University of Western Australia requires that all participants are informed that if they have any complaint regarding the manner in which a research project is conducted, it may be given to the researcher or, alternatively to the Secretary, Human Research Ethics Committee, Registrar’s Office, University of Western Australia, 35 Stirling Highway, Crawley, WA 6009 (telephone number (+61 8) 6488 3703).
Initial individual interview; example of notes taken (Ms Hague)

What does the term “differentiation” mean to you?
(trying to establish what they think it means, whether they’ve tried it, how it went (if they did), what has prevented them trying it (if they didn’t) and what their ideas are on what they want to do for this project.)
Modifying tasks so that all children can achieve something.
Seeing what each kid can do rather than setting them up to fail.

Do you think it’s important that teachers use differentiation in their teaching?
(Why?)
End up with lots of behaviour problems if not – ultimately the kids feel terrible about themselves, give up, don’t want to try – self-esteem issues lead to bullying – boys get aggressive and it then goes out of the classroom to home and the playground.

Have you used differentiation in your classroom?
(When? With whom? Details?)
This year, did Maths ability groups with the other Year 3 class – some Year 3, some Year 7 level maths – did pre-test then put into groups and wrote a programme for the different groups. Post-tested them – especially in maths – huge range of abilities – eg some not strong with number but very good spatially – important that they’re not just stuck in a group all year, without the chance to move. Some artistic kids who are good spatially, others very good at number but have no spatial awareness. Important for some kids to move “up” into the top group – their self-esteem is really pumped up a little bit by this. It’s good for those kids – so they don’t just think they’re crap at Maths their whole life.

We do reading/literacy groups too – set work at an appropriate reading level for those boys – those who were behind went to another teacher for support or games in the classroom ….. A couple of kids moved up a group.

When we did enquiry in the library with a teacher librarian for S&E, we had a group of kids who worked through the same process together, but some could write their own questions and go off – it wasn’t necessarily to do with their reading/writing ability. Some of the good readers were able to help weaker readers stay on task.

If yes - how did the lesson go?
(Differently from normal? Better/worse? Any differences in the boys’ behaviour? Follow up – done more?)

If no – why not?
(What has stopped you? What has prevented you trying it? Why do you generally not differentiate?)
In literacy groups/maths groups, would have liked five groups – need more people resources to help you do it. Some parents only sit with own child; others more useful. Tried to have Teacher Aides at least to take a group – then knew what they should be doing.

What ideas do you have in terms of differentiation that you’d like to try in your classroom?
(Where did the ideas come from? what do you need from me to support this?)
Would like to set up proper literacy centres and have that going – haven’t tried it specifically. Also, because I will have some PMC boys and some LDC boys and some very bright ones, it will be really good to do a bit of peer tutoring with those very bright kids doing that together (or teaching the less able ones).
# Appendix Three

Initial individual interview – example of coded responses (Mr Abbot)

**What does the term “differentiation” mean to you?**

<table>
<thead>
<tr>
<th>Response</th>
<th>Coded Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivering one curriculum in different ways that will enable boys of different levels/abilities to achieve.</td>
<td></td>
</tr>
<tr>
<td>Same curriculum – same content – the reason we teach the curriculum is because we’ve decided it’s important – eg NOT “federation in Australia is too hard”, but “They need to know it because it’s important – whatever level they’re at”.</td>
<td></td>
</tr>
<tr>
<td>Differentiation is not necessarily the answer – even if it’s hard, we need to make it seem not hard.</td>
<td></td>
</tr>
</tbody>
</table>

**Do you think it’s important that teachers use differentiation in their teaching?**

<table>
<thead>
<tr>
<th>Response</th>
<th>Coded Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes – because there are lots of ways to learn – it doesn’t matter which way as long as it’s learnt.</td>
<td>RYT</td>
</tr>
<tr>
<td>Adjusting the approach will help different boys get to the end.</td>
<td></td>
</tr>
<tr>
<td>Different ways of learning should be allowed if all are to achieve.</td>
<td></td>
</tr>
<tr>
<td>Also have to differentiate to different abilities.</td>
<td></td>
</tr>
<tr>
<td>Some boys won’t achieve to the same level as others even with the right approach.</td>
<td></td>
</tr>
</tbody>
</table>

**Have you used differentiation in your classroom?**

<table>
<thead>
<tr>
<th>Response</th>
<th>Coded Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not as much as I should be – I try to but it’s difficult in a Humanities classroom - more so than maths/science, it’s one of the most difficult areas to differentiate.</td>
<td>CSS</td>
</tr>
<tr>
<td>Critical thinking of textual based stuff compared to skills – heavy content – to create a differentiated resource is much more difficult in humanities than in maths – simpler sums just dumb it down a bit.</td>
<td>CSS</td>
</tr>
<tr>
<td>You can give all boys the same source in humanities but some sources are difficult – others are suitable for A and E students.</td>
<td>CSS</td>
</tr>
<tr>
<td>I have a top set this year and a middle set – I have given lots of stuff to the top set but not to the middle.</td>
<td>SHW(H)</td>
</tr>
<tr>
<td>I’ve reduced the number of things asked of middle set – better to do 2/3 properly than 6 and give up.</td>
<td></td>
</tr>
<tr>
<td>Nothing different has been done within that middle class – I try to give individual help – no different work.</td>
<td>SIH</td>
</tr>
<tr>
<td>I’m not quite sure whether some of those kids are just lazy – is it the right thing to do to give them easier work? If they really can’t do it, it’s different.</td>
<td>RNT RYT</td>
</tr>
</tbody>
</table>

**Why don’t some teachers differentiate their teaching?**

<table>
<thead>
<tr>
<th>Response</th>
<th>Coded Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time – time to make the resources and think about the different approaches that are necessary – terms two and three here are just flat out – it’s hard to stand back and do something different.</td>
<td>CXW</td>
</tr>
</tbody>
</table>

**What ideas do you have in terms of differentiation that you’d like to try in your classroom?**

<table>
<thead>
<tr>
<th>Response</th>
<th>Coded Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not yet – I got some stuff from **** on differentiated worksheets (story mapping) – I don’t think it worked that well – couldn’t get it to the point where it might be useful.</td>
<td>RNP</td>
</tr>
</tbody>
</table>
**Appendix Four**

Section of transcript of final group interview with coding

<table>
<thead>
<tr>
<th>HE</th>
<th>So you’ve got a fair amount of leeway in your Year 3 group, in terms of how fast you take the boys and how advanced you take them. I think in my course, and I chose my 12 3A/B German course – it’s quite difficult when you have a set curriculum with topics that you absolutely have to cover with them in order to prepare them for their TEE or WACE exam. So what did I do? Well, much like you, I pre-tested them and I found out where their specific set-backs were and based on that, I kept (this was one of the ideas I found in that book that you lent us last year) – you keep sort of a student log so I’ve got a little picture Post-it of my students in Year 12 German and I’ve taken notes based on their affective and academic achievements and their pitfalls. So the situation was that I had two native speakers so obviously they’re not going to do the same work as the others and they need to be extended, so I had to get novels and short stories and basically run it like a German literature class for them. Then I’ve got a top set academic boy in there who’s not a native speaker, one who’d like to be, some who wallow in the middle and one who just flounders through everything he does. So the action I took specifically was this student log. I update that several times a term and each time I update it, I ask myself what’s this student’s issue and what can I do to rectify it? And then some actions may be to speak to the student and find out where his motivation lies and so on. Assessments – like you I look at assessments and I do a pre-test and I found out what the specific student needs were. So some might have trouble with adjectival endings, others might have trouble with subject/verb agreements, sentence structure and so on. So what I’ve done based on that was try to find (and this is quite time-consuming) but I went out there and either created or found tasks that were specific to that student need. There’s no need for all of them to do the same exercise when five of them can do it and four of them can’t - the four of them will benefit and the five will just be bored; it will just be busy work, for example. So I had to find tasks that were specific to the student, really. And then of course using Gardner’s (but you can’t, it’s a bit unfair to do that all the time) you can’t use Gardner’s intelligences and ways of teaching in Year 12 when the exam is just a written exam isn’t it; and I mean there’s the exam and the spoken exam and that’s it. The kid can’t do an interpretative dance to show his subject/verb agreement. Well, I’m using an amusing, or ridiculous example about why you can do those sorts of things perhaps in the lower school to really help the kids develop those foundation skills that they need, but you can’t do that in Year 12. So you are kind of limited in how you can apply these alternative or Gardner’s intelligences. But I did that ….. You know, some boys are more verbal than others, so they like to talk their way through problems rather than writing their way through problems, and so I use that as well. So the outcome was that the boys really responded quite well to the different student specific tasks; they appreciate the fact that I sat down with them specifically and said “This is what you need to work on and this is where you need to improve”. Others were happy to just go “Oh, I’ll just cruise along, I’m happy with the way it is”. Eventually, maybe, well I don’t know ….. I’ve just got a slack Year 12 group. So, that’s my situation – action, outcome – problems I encountered were – it takes a lot of time doing this – taking notes on each student several times a term, finding specific tasks that the students need, giving them individual feedback and then chasing them up when they don’t get it done. So I did this for only one class and that took a lot of time – I can’t imagine doing it for all my classes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HE</td>
<td>Appendix Four Section of transcript of final group interview with coding</td>
</tr>
<tr>
<td>HE</td>
<td></td>
</tr>
</tbody>
</table>
Appendix Five

Example of notes taken during final individual interview – Mr Evans

What have you learnt from your differentiation efforts this year?
There are lots of different ways to go about it
My way was really time intensive – there must be better ways to do it
Learnt that not all students will necessarily care that you’re differentiating for them – couldn’t care less – not used to it here particularly
They’re not used to someone who actually does this – I’m not sure they appreciate having different tasks – might feel they’re getting something easier – think “Am I dumb?” (even though I’d explained it to them)
For self – learnt that I need to practise to get better at it – learning curve
Wouldn’t do it again – too much time to do it

Has it changed your thoughts about teaching high/middle/low ability?
No – always known they exist – we cater for them as best we want to – not as best we can – lots of teachers could do it better.
I do it as best I want to – could do it better but always a pay-off – what will give? Time with girlfriend/sleep/garden.
About the urgency of how much they need it – if really lagging behind, will put hours in to get them acceptable.
Depends also on the enthusiasm of the student – if I differentiate my content and put hours in to help that student and they show zero initiative because they couldn’t care less, I’ll wonder why I put that much effort in and ask if they want it and if not, I will put my efforts into those who are willing to put the effort in, too.
Those who are super enthusiastic get so much extra help – no worries. If they don’t want to study or do the work or would rather play Wii, then they go and do it – I won’t differentiate for them because they don’t like it or care.
It’s different with Year 12’s – they should be self-motivated by then.

What would you recommend to colleagues keen to have a go at differentiating their teaching?
Why to do it is self-evident – everybody learns differently – we don’t stream but want students to achieve highly, so if you want that, you’ll need to make learning accessible so they can learn.
Would recommend they do something like a Micups survey – multiple intelligence check-up survey – series of questions where the students agree/disagree with statements – all about how they like to learn – Gardner’s multiple intelligences – then they can see what their students like/how they like to learn – could then provide them with those learning styles. Not that hard.
In Languages, we do hear things from audio texts and see it written and have to see pictures of German culture to get it – a core requirement of a foreign language – we differentiate by virtue of being a language! Caters for musical, heard, pictures etc. By ability level – not so much – one teacher said to me a year and a half ago that it’s not fair to give a worksheet with three terms on it to one group of kids and one with 30 terms on it if they’re going to sit the same test. I’m in two minds about whether this is fair. When I differentiate, it’s according to learning style/multiple intelligences. Will teach all the new concepts equally so they can’t say “you didn’t teach us all this” – because I did.

What would be your thoughts on how school leadership teams can support teachers to differentiate their teaching?
Two ways – send teachers on professional development on differentiation – teach them how to. Then give them some time to actually do it, prepare for it – it takes time to prepare a good differentiated lesson, never mind a series of them. If staff have the add-on method – “just a little bit more won’t kill them” – every little spare minute could be filled with some further responsibility – the more you mandate things, the less people want to do it. For example sports carnivals – if they asked “Who would like to go?”, in some schools, teachers would all go. People are spread so thinly here, they don’t want to do it any more. The last thing they want to think about is differentiation.
Appendix Six

Section of transcript of initial group interview with annotations

| CL   | Well I've just written a list of things down and there's nothing very ingenious here, but it's what I've done from the beginning of the year with my Year 9 mainstream English class. I initially conducted a bit of a diagnostic test which was more based on writing, grammar and punctuation and spelling and I found that was very telling of their ability levels! A few of the boys were capable of being in top set – they were really smart. And then there were a few that had absolutely no idea how to spell some pretty commonly used words. A couple have learning profiles which I already knew about, so there's just such a differing ability level in the class. So I'm going to work at giving them separate grammar and spelling and punctuation activities which I can just photocopy and give to different boys and I don't think they'll be embarrassed by that, it'll just be what they need to work on. So that'll be a homework task that they'll be able to do separately because there's no point giving the stronger boys who almost got 100% in the test common exercises. So I'll do that and it won't be very difficult for me – I'll just be having three levels I'll work with and it was interesting, they were kind of clumped in really, really weak, medium and very strong. Teachers seem to like to be modest about their efforts! First mention of diagnostic testing. This is not done in all departments. In Years 9 and 10 we have a top set of bright boys in the four core subjects (English, Maths, Science and Humanities) picked mainly based on the previous year’s assessment marks in each of those subjects. Other than this top set and a support group of a dozen or so low ability boys with specific learning difficulties, the rest of the classes are mixed ability First mention of differentiated homework, based on the diagnostic test carried out. First mention of three levels of ability within the one class. I'm checking whether this will save time. Assumption that differentiation is easier with fewer boys in a class. This student is renowned for behaving poorly as well as having learning difficulties. |
| JH   | And you don’t have to write all those – you can get them out of a book, can you? |
| CL   | From a book for separate levels. So that'll be easy for me and I’ll do that. So that was the first thing I did. Luckily for me it's a small class (or relatively small, with eighteen students) so it means that I can walk around and help them one-on-one a lot and I've been doing that and obviously if they're writing a piece of work I'll then discuss whatever mistakes they've made with them individually and I think that's been helping the weaker students especially, so that's nice. I also have ***** in the class, so he counts for about ten people, but that's alright! And keeping him focused is very interesting. I also do this with all my classes but I try to have a pre-prepared booklet for each unit and I have more work in there than I think I’ll get through and because of that it means it creates less work for me and if any of the more able students finish earlier, they'll then go on and do something else in that booklet. So the strongest student will probably get through all the stories there and answer most of the questions that are in that booklet. The weaker ones won’t, but that's OK – they'll do enough. |
| JH   | Do they know that they don’t have to finish it all? |
| CL   | Yes. Well, they might not know but I've told the stronger ones – they've already gone way ahead already; today we were doing creative writing and two of them had really great ideas for stories which reminded me of stories in the booklet and a Year 12 story I did, so I gave them an extra story to read. It’s interesting – if you give them extra work and make them feel special, they’ll do it and they’ll actually benefit from it and I think it creates more of a positive link to wanting to do more and not just doing it to do what’s required, if that makes sense. So creating, I suppose, autonomous learning in a way at a young age. I’ve tried to do that. I’ve got three boys in the class who are really capable, so I’m really challenging them now, and well, we’ll see if that works. So those pre-prepared booklets are really helpful for me. Then yesterday I set this creative piece for them to do in silence. I provided a model example – I think that’s really important, to give them model examples as much as possible in English – and I’ve scaffolded the task for the less able students and then I’d already explained this task to the three boys who are way ahead the day before, and I told them just to quietly continue it, so they were able to tune off while I gave much more detail about the task to the weaker students. And they did, and they finished early and I gave them more work to do. And I think it's working fine, then working slightly ahead all the time – I don’t feel like the others feel less confident about their own work as a result. These more able boys receive extra work as opposed to different work. This teacher believes that giving the bright students extra work acts as positive reinforcement for them and leads to the development of independent learning skills. First mention of giving exemplary work to students to show them what is required. Teachers at this school talk of “scaffolding” meaning providing eg writing frameworks to support the students in constructing their answers. This teacher has the bright students set up and working on a task, so they can ignore the more detailed instructions given to the weaker students. |
Appendix Seven

Example of initial group interview with coding

| CL | Well I’ve just written a list of things down and there’s nothing very ingenious here, but it’s what I’ve done from the beginning of the year with my Year 9 mainstream English class. I initially conducted a bit of a diagnostic test which was more based on writing, grammar and punctuation and spelling and I found that was very telling of their ability levels! A few of the boys were capable of being in top set – they were really smart. And then there were a few that had absolutely no idea how to spell some pretty commonly used words. A couple have learning profiles which I already knew about, so there’s just such a differing ability level in the class. So I’m going to work at giving them separate grammar and spelling and punctuation activities which I can just photocopy and give to different boys and I don’t think they’ll be embarrassed by that, it’ll just be what they need to work on. So that’ll be a homework task that they’ll be able to do separately because there’s no point giving the stronger boys who almost got 100% in the test common exercises. So I’ll do that and it won’t be very difficult for me – I’ll just be having three levels I’ll work with and it was interesting, they were kind of clumped in really, really weak, medium and very strong. And you don’t have to write all those – you can get them out of a book, can you? |
| JH | From a book for separate levels. So that’ll be easy for me and I’ll do that. So that was the first thing I did. Luckily for me it’s a small class (or relatively small, with eighteen students) so it means that I can walk around and help them one-on-one a lot and I’ve been doing that and obviously if they’re writing a piece of work I’ll then discuss whatever mistakes they’ve made with them individually and I think that’s been helping the weaker students especially, so that’s nice. I also have ***** in the class, so he counts for about ten people, but that’s alright! And keeping him focused is very interesting. |
| CL | I also do this with all my classes but I try to have a pre-prepared booklet for each unit and I have more work in there than I think I’ll get through and because of that it means it creates less work for me and if any of the more able students finish earlier, they’ll then go on and do something else in that booklet. So the strongest student will probably get through all the stories there and answer most of the questions that are in that booklet. The weaker ones won’t, but that’s OK – they’ll do enough. Do they know that they don’t have to finish it all? |
| JH | Yes. Well, they might not know but I’ve told the stronger ones – they’ve already gone way ahead – they’ve done a couple more stories already – today we were doing creative writing and two of them had really great ideas for stories which reminded me of stories in the booklet and a Year 12 story I did, so I gave them an extra story to read. It’s interesting – if you give them extra work and make them feel special, they’ll do it and they’ll actually benefit from it and I think it creates more of a positive link to wanting to do more and not just doing it to do what’s required, if that makes sense. So creating, I suppose, autonomous learning in a way at a young age. That’s what I’ve tried to do. |
| CL | I’ve got three boys in the class who are really capable, so I’m really challenging them now, and well, we’ll see if that works. So those pre-prepared booklets are really helpful for me. Then yesterday I set this creative piece for them to do in silence. I provided a model example – I think that’s really important, to give them model examples as much as possible in English – and I’ve scaffolded the task for the less able students and then I’d already explained this task to the three boys who are way ahead the day before, and I told them just to quietly continue it, so they were able to tune off while I gave much more detail about the task to the weaker students. And they did, and they finished early and I gave them more work to do. And I think it’s working fine, them working slightly ahead all the time – I don’t feel like the others feel less confident about their own work as a result. I did that yesterday and then they went on with something else. So I think it’s a matter of staying really organised and having at least two days planned in advance in their head so that they can give the next task earlier and the other boys will eventually do that. So I think that’s important with differentiation. And then, like you, I’m working with the homework as a kind of catch up or an extension exercise. So I set brainstorming for the task for homework. |

| SSA |
| CRA |
| CSV |
| SSP |
| SIH |
| CIS |
| SDP(H) |
| SDP(L) |
| SDP(H) |
| SCT |
| SHW(H) |
| SCT(H) |
| SSW(L) |
| SIH(L) |
| SDP(H) |
Appendix Eight
Coding manual Version 1

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<tr>
<th>Code</th>
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<th>Description</th>
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<tr>
<td>PRN</td>
<td>Practical Reason No</td>
<td>Practical reason why teachers don’t/shouldn’t differentiate</td>
</tr>
<tr>
<td>TRN</td>
<td>Theoretical Reason No</td>
<td>Theoretical/belief reason why teachers don’t/shouldn’t differentiate</td>
</tr>
<tr>
<td>PRY</td>
<td>Practical Reason Yes</td>
<td>Practical reason why teachers do/should differentiate</td>
</tr>
<tr>
<td>TRY</td>
<td>Theoretical Reason Yes</td>
<td>Theoretical/belief reason why teachers don’t/shouldn’t differentiate</td>
</tr>
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<td>H</td>
<td>Helpful things</td>
<td>Helpful things in terms of differentiation</td>
</tr>
<tr>
<td>DS</td>
<td>Description of Strategy</td>
<td>Description of strategy tried for differentiation</td>
</tr>
<tr>
<td>GSY</td>
<td>Grouping/Streaming Yes</td>
<td>Grouping or streaming strategy advocated</td>
</tr>
<tr>
<td>GSN</td>
<td>Grouping/Streaming No</td>
<td>Grouping or streaming strategy not advocated</td>
</tr>
<tr>
<td>XH</td>
<td>Extra Helper</td>
<td>Extra helper strategy eg Educational Assistant</td>
</tr>
<tr>
<td>CD</td>
<td>Challenge Differentiation</td>
<td>Challenges in terms of differentiation</td>
</tr>
<tr>
<td>XW</td>
<td>Extra Work</td>
<td>Extra work needed by teachers</td>
</tr>
<tr>
<td>OP</td>
<td>Outcome Positive</td>
<td>A strategy which worked (in their opinion)</td>
</tr>
<tr>
<td>DPE</td>
<td>Description of Positive Effects</td>
<td>How it benefited student learning</td>
</tr>
<tr>
<td>ON</td>
<td>Outcome Negative</td>
<td>A strategy which didn’t work (in their opinion)</td>
</tr>
<tr>
<td>DNE</td>
<td>Description of Negative Effects</td>
<td>How it hindered student learning</td>
</tr>
<tr>
<td>SO</td>
<td>Student opinion</td>
<td>Student opinion on differentiation (from the teacher’s perspective)</td>
</tr>
<tr>
<td>SN</td>
<td>Students Not</td>
<td>Comments about students not realising they’re in different groups</td>
</tr>
<tr>
<td>SR</td>
<td>Students Realise</td>
<td>Comments about students who do realise they’re in different groups</td>
</tr>
<tr>
<td>SD</td>
<td>Streaming Difficulties</td>
<td>Streaming difficulties suggested</td>
</tr>
<tr>
<td>ASC</td>
<td>Appropriate Student Choice</td>
<td>Description of appropriate student choice of task according to their ability</td>
</tr>
<tr>
<td>ISC</td>
<td>Inappropriate Student Choice</td>
<td>Description of inappropriate student choice of task according to their ability</td>
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<td>Less Able</td>
<td>Comment on students who are very weak</td>
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<td>MA</td>
<td>More Able</td>
<td>Comment on students who find learning easy</td>
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<tr>
<td>A</td>
<td>Assessment</td>
<td>Comment on how assessment can be used to help teachers differentiate</td>
</tr>
<tr>
<td>BS</td>
<td>Benefits students</td>
<td>Benefits of differentiation to students</td>
</tr>
</tbody>
</table>

Could later group them - possibly:
Reasons for / against differentiation (PRN, TRN, PRY, TRY); Things that helped differentiation (H, XH, A)
Things that hindered differentiation (CD, XW); How to differentiate (DS)
Comments about grouping/streaming (GSY, GSN, SR, SN, SD, ASC, ISC, )
Results of using differentiation (OP, DPE, ON, DNE, SO, BS)
### Appendix Nine

**Coding manual Version 2**

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<td>Practical Reason No</td>
<td>Practical reason why teachers don’t/shouldn’t differentiate</td>
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<tr>
<td>TRN</td>
<td>Theoretical Reason No</td>
<td>Theoretical/belief reason why teachers don’t/shouldn’t differentiate</td>
</tr>
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<td>PRY</td>
<td>Practical Reason Yes</td>
<td>Practical reason why teachers do/should differentiate</td>
</tr>
<tr>
<td>TRY</td>
<td>Theoretical Reason Yes</td>
<td>Theoretical/belief reason why teachers do/should differentiate</td>
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<td>Extra Work</td>
<td>Extra work needed by teachers</td>
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<tr>
<td>OP</td>
<td>Outcome Positive</td>
<td>A strategy which worked (in their opinion)</td>
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<tr>
<td>DPE</td>
<td>Description of Positive Effects</td>
<td>On learning/for students</td>
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<td>ON</td>
<td>Outcome Negative</td>
<td>A strategy which didn’t work (in their opinion)</td>
</tr>
<tr>
<td>DNE</td>
<td>Description of Negative Effects</td>
<td>On learning/students</td>
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<td>Student opinion on differentiation</td>
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<td>Comments about students who do realise they’re in different groups</td>
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<tr>
<td>LA</td>
<td>Less Able</td>
<td>Comment on students who are very weak</td>
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<td>MA</td>
<td>More Able</td>
<td>Comment on students who find learning easy</td>
</tr>
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<tr>
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<td>Comment on how assessment can be used to help teachers differentiate</td>
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### Appendix Ten

#### Coding manual Version 3

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<th>Code</th>
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<th>Description</th>
<th>Illustrative Quotation/s</th>
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<td>Practical reason why teachers don’t/shouldn’t differentiate</td>
<td>Have you got time in the programme to do that?</td>
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<tr>
<td>TRN</td>
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<td>Theoretical/belief reason why teachers don’t/shouldn’t differentiate</td>
<td>If you say to them “You’ve got to think up a question”, it’s really difficult. You don’t tend to do that until third year University.</td>
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<tr>
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<td>Practical reason why teachers do/should differentiate</td>
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<td>TRY</td>
<td>Theoretical Reason Yes</td>
<td>Theoretical/belief reason why teachers do/should differentiate</td>
<td>They’ve been really eager to do more.</td>
</tr>
<tr>
<td>H</td>
<td>Helpful things</td>
<td>Helpful things in terms of differentiation</td>
<td></td>
</tr>
<tr>
<td>DS</td>
<td>Description of Strategy</td>
<td>Description of strategy tried for differentiation</td>
<td>I’ve taken notes based on their affective and academic achievements and their pitfalls.</td>
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<tr>
<td>GSY</td>
<td>Grouping/Streaming Yes</td>
<td>Grouping or streaming strategy advocated</td>
<td>When we used to use ability grouping, that meant the differentiation was much less.</td>
</tr>
<tr>
<td>GSN</td>
<td>Grouping/Streaming No</td>
<td>Grouping or streaming strategy not advocated</td>
<td>There are huge social arguments against grouping by ability.</td>
</tr>
<tr>
<td>XH</td>
<td>Extra Helper</td>
<td>Extra helper strategy eg Educational Assistant</td>
<td>Having the EA in the classroom is a godsend.</td>
</tr>
<tr>
<td>CD</td>
<td>Challenge Differentiation</td>
<td>Challenges in terms of differentiation</td>
<td></td>
</tr>
<tr>
<td>XW</td>
<td>Extra Work</td>
<td>Extra work needed to be done by teachers</td>
<td>There’s a lot of thought and a lot of planning and a lot of work that needs to go into that.</td>
</tr>
<tr>
<td>OP</td>
<td>Outcome Positive</td>
<td>A strategy which worked (in their opinion)</td>
<td>We’re doing whole class writing/reading activities. And that’s working really, really well.</td>
</tr>
<tr>
<td>DPE</td>
<td>Description of Positive Effects</td>
<td>On learning/students</td>
<td>There were three 100%’s in my top set—they were just amazing, because they had taken on that extra thought process, I suppose, and they put heaps of time into presentation as well, and it was just interesting to look at how much value they placed on their work.</td>
</tr>
<tr>
<td>ON</td>
<td>Outcome Negative</td>
<td>A strategy which didn’t work (in their opinion)</td>
<td></td>
</tr>
<tr>
<td>DNE</td>
<td>Description of Negative Effects</td>
<td>On learning/students</td>
<td></td>
</tr>
<tr>
<td>SO</td>
<td>Student opinion</td>
<td>Student opinion on differentiation</td>
<td></td>
</tr>
<tr>
<td>SN</td>
<td>Students Not</td>
<td>Comments about students not realising they’re in different groups</td>
<td>The boys are working in developmental groups and it’s quite funny; some of them don’t actually realise that they are in those groups.</td>
</tr>
<tr>
<td>SR</td>
<td>Students Realise</td>
<td>Comments about students who do realise they’re in different groups</td>
<td>It’s a worry if you group them like that, though, because they know straight away.</td>
</tr>
<tr>
<td>SD</td>
<td>Streaming Difficulties</td>
<td>Streaming difficulties suggested</td>
<td>The boy in my mainstream class who I think should be in top set …..</td>
</tr>
<tr>
<td>ASC</td>
<td>Appropriate Student Choice</td>
<td>Description of appropriate student choice of task according to their ability</td>
<td></td>
</tr>
<tr>
<td>ISC</td>
<td>Inappropriate Student Choice</td>
<td>Description of inappropriate student choice of task according to their ability</td>
<td>One or two of them did [ask for his work] at the beginning, but they don’t now.</td>
</tr>
<tr>
<td>LA</td>
<td>Less Able</td>
<td>Comment on students who are very weak</td>
<td>He is at best a reluctant learner.</td>
</tr>
<tr>
<td>MA</td>
<td>More Able</td>
<td>Comment on students who find learning easy</td>
<td>I’ve got three boys in the class who are really capable, so I’m really challenging them now.</td>
</tr>
<tr>
<td>RA</td>
<td>Range Ability</td>
<td>Comment on the range of ability in a class or group</td>
<td>I’ve got kids who can’t subtract and kids who basically know the whole Year 8 course and half of the Year 9 course already.</td>
</tr>
<tr>
<td>A</td>
<td>Assessment</td>
<td>Comment on how assessment can be used to help teachers differentiate</td>
<td>I did some diagnostic testing with my English class, my ESL class and with my Year 9 and Year 12 German class as well.</td>
</tr>
</tbody>
</table>
## Appendix Eleven

**Coding manual Version 4**

(M) after a code means “for more able students”; (L) after a code means “for less able students”

### Reasons for/against differentiation

<table>
<thead>
<tr>
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<th>Description</th>
<th>Illustrative Quotation/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNP</td>
<td>Reason No Practical</td>
<td>Practical reason why teachers don’t/shouldn’t differentiate</td>
<td>Have you got time in the programme to do that?</td>
</tr>
<tr>
<td>RNT</td>
<td>Reason No Theoretical</td>
<td>Theoretical/belief reason why teachers don’t/shouldn’t differentiate</td>
<td>If you say to them “You’ve got to think up a question”, it’s really difficult. You don’t tend to do that until third year University</td>
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<tr>
<td>RYP</td>
<td>Reason Yes Practical</td>
<td>Practical reason why teachers do/should differentiate</td>
<td>I’m sure giving them harder stuff to do motivates them more</td>
</tr>
<tr>
<td>RYT</td>
<td>Reason Yes Theoretical</td>
<td>Theoretical/belief reason why teachers do/should differentiate</td>
<td>They’ve been really eager to do more</td>
</tr>
</tbody>
</table>

### Strategies used in classroom differentiation

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<th>Description</th>
<th>Illustrative Quotation/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>STS</td>
<td>Strategy Teacher streaming</td>
<td>Comments regarding how the teachers view putting boys into different ability groups or classes</td>
<td>When we used to use ability grouping, that meant the differentiation was much less. There are huge social arguments [against grouping by ability]</td>
</tr>
<tr>
<td>SSP</td>
<td>Strategy Student perception</td>
<td>Comments regarding how the boys view being put into different ability groups or classes</td>
<td>The boys are working in developmental groups and it’s quite funny; some of them don’t actually realise that they are in those groups</td>
</tr>
<tr>
<td>SGC</td>
<td>Strategy Giving Choice</td>
<td>Description or comments regarding students having some element of choice about the work they complete</td>
<td></td>
</tr>
<tr>
<td>SXH</td>
<td>Strategy Extra helper</td>
<td>When an extra helper is present in the classroom to work with the students</td>
<td>Having the Educational Assistant in the classroom is a godsend</td>
</tr>
<tr>
<td>SWC</td>
<td>Strategy Withdrawal [from] Classroom</td>
<td>When students are withdrawn from classrooms to work, eg to receive extra support from an Educational Assistant or extension work from another teacher</td>
<td></td>
</tr>
<tr>
<td>SSA</td>
<td>Strategy Student Assessment</td>
<td>How assessment can be used to help teachers differentiate</td>
<td>I did some diagnostic testing with my English class, my ESL class and with my Year 9 and Year 12 German class as well</td>
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### Challenges involved in differentiating teaching

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<tbody>
<tr>
<td>CXW</td>
<td>Challenge Extra Work</td>
<td>Comments on extra work needed to be done by teachers</td>
<td>There’s a lot of thought and a lot of planning and a lot of work that needs to go into that</td>
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<tr>
<td>CSD</td>
<td>Challenge Streaming Difficulties</td>
<td>Comments on how difficult it is to effectively group or stream students according to ability</td>
<td>The boy in my mainstream class who I think should be in top set .....</td>
</tr>
<tr>
<td>CSO</td>
<td>Challenge School Operations</td>
<td>Comments on how logistics in terms of practical school operations make differentiating difficult</td>
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### Outcomes of differentiation

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<td>Description of a differentiation strategy which the teacher felt worked and resulted in a positive outcome</td>
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<tr>
<td>ON</td>
<td>Outcome Negative</td>
<td>Description of a differentiation strategy which the teacher felt did not work and resulted in a negative outcome</td>
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Appendix Twelve

Coding manual Version 5

(H) after a code means “for higher ability students”

(L) after a code means “for lower ability students”

Reasons for/against differentiation

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<tbody>
<tr>
<td>RNP</td>
<td>Reason No Practical</td>
<td>Practical reason why teachers don’t/shouldn’t differentiate</td>
<td>Have you got time in the programme to do that?</td>
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<tr>
<td>RNT</td>
<td>Reason No Theoretical</td>
<td>Theoretical/belief reason why teachers don’t/shouldn’t differentiate</td>
<td>If you say to them “You’ve got to think up a question”, it’s really difficult. You don’t tend to do that until third year University</td>
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<tr>
<td>RYP</td>
<td>Reason Yes Practical</td>
<td>Practical reason why teachers do/should differentiate</td>
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<td>Reason Yes Theoretical</td>
<td>Theoretical/belief reason why teachers do/should differentiate</td>
<td>They’ve been really eager to do more</td>
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Strategies used in classroom differentiation

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<tbody>
<tr>
<td>STS</td>
<td>Strategy Teacher streaming</td>
<td>Putting boys into different ability groups or classes</td>
<td>When we used to use ability grouping, that meant the differentiation was much less. There are huge social arguments [against grouping by ability]</td>
</tr>
<tr>
<td>SGC</td>
<td>Strategy Giving Choice</td>
<td>Students have some element of choice about the work they complete</td>
<td>That was optional for them as well – in the top set especially, I give them options</td>
</tr>
<tr>
<td>SXH</td>
<td>Strategy Extra Helper</td>
<td>An extra helper is present in the classroom to work with the students</td>
<td>Having the EA in the classroom is a godsend</td>
</tr>
<tr>
<td>SWC</td>
<td>Strategy Withdrawal [from] Classroom</td>
<td>Students are withdrawn from classrooms to work, eg to receive extra support from an Educational Assistant or extension work from another teacher</td>
<td>Two of those boys go to the PMC for specific literacy/numeracy stuff</td>
</tr>
<tr>
<td>SSA</td>
<td>Strategy Student Assessment</td>
<td>How assessment can be used to help teachers differentiate</td>
<td>I did some diagnostic testing with my English class, my ESL class and with my Year 9 and Year 12 German class as well</td>
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<tr>
<td>SCT</td>
<td>Strategy Creative Task</td>
<td>A piece of work given to students that allows more creativity</td>
<td>Creative tasks in English especially allow for the more able kids to be challenged</td>
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**LEADING CHANGE – EXPLORING STRATEGIES FOR CHANGING PEDAGOGICAL PRACTICES**

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<th>Description</th>
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</tr>
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<tbody>
<tr>
<td><strong>SOT</strong></td>
<td>Strategy Open Task</td>
<td>A piece of work given to students that is open-ended (less structured than might normally be the case)</td>
<td>Most tasks can be differentiated for different students if they’re open-ended</td>
</tr>
<tr>
<td><strong>SIH</strong></td>
<td>Strategy Individualised Help</td>
<td>When the teacher works one-on-one with a single student</td>
<td>We had a few Futuresphere lessons where they were working and I was going to each student and helping them individually</td>
</tr>
<tr>
<td><strong>SSP</strong></td>
<td>Strategy Specific Programme</td>
<td>When the teacher uses a specific teaching programme to help with differentiation</td>
<td>I bring in another reading programme called “Four roles of the reader”</td>
</tr>
<tr>
<td><strong>SDQ</strong></td>
<td>Strategy Differentiated Questioning</td>
<td>When the teacher asks questions some of which are easy to answer and some of which are difficult to answer</td>
<td></td>
</tr>
<tr>
<td><strong>SWO</strong></td>
<td>Strategy Working [with] Outsiders</td>
<td>When the students receive extra support or tuition outside the school context</td>
<td>three or four kids go to “Fun Track” down at Peppy Grove</td>
</tr>
<tr>
<td><strong>SHW</strong></td>
<td>Strategy Harder Work</td>
<td>When the teacher sets more difficult work for some of the students</td>
<td></td>
</tr>
<tr>
<td><strong>SPT</strong></td>
<td>Strategy Peer teaching</td>
<td>When students’ skills are utilised to carry out peer tutoring within the classroom</td>
<td></td>
</tr>
<tr>
<td><strong>SUT</strong></td>
<td>Strategy Using Technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SSW</strong></td>
<td>Strategy Scaffolding Work</td>
<td>When the teacher scaffolds a task to make it easier/more structured for students</td>
<td>What I was planning on doing was stepping through it with the kids</td>
</tr>
<tr>
<td><strong>SDP</strong></td>
<td>Strategy Different Pacing</td>
<td>When the teacher compact[s the curriculum or spends more/less time on a piece of work with certain students</td>
<td></td>
</tr>
</tbody>
</table>

**Challenges involved in differentiating teaching**

<table>
<thead>
<tr>
<th>Code</th>
<th>What it stands for</th>
<th>Description</th>
<th>Illustrative Quotation/s</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CXW</strong></td>
<td>Challenge Extra Work</td>
<td>Instances of extra work needed to be done by teachers</td>
<td>There’s a lot of thought and a lot of planning and a lot of work that needs to go into that</td>
</tr>
<tr>
<td><strong>CSD</strong></td>
<td>Challenge Streaming Difficulties</td>
<td>Difficulties in effectively grouping or streaming students according to ability</td>
<td>The boy in my mainstream class who I think should be in top set .....</td>
</tr>
<tr>
<td><strong>CSO</strong></td>
<td>Challenge School Operations</td>
<td>Comments on how logistics in terms of practical school operations make differentiating difficult</td>
<td>With the number of kids we’ve got, sometimes with some equipment, we’re looking at four kids to a group, which is unwieldy .....</td>
</tr>
</tbody>
</table>
LEADING CHANGE – EXPLORING STRATEGIES FOR CHANGING PEDAGOGICAL PRACTICES

<table>
<thead>
<tr>
<th>Code</th>
<th>Challenge</th>
<th>Description</th>
<th>Illustrative Quotation/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRA</td>
<td>Challenge Range [of] Abilities</td>
<td>Difficulties due to the sheer range of abilities in the class</td>
<td>Even within that top set there’s such a range of ability in these kids .....</td>
</tr>
<tr>
<td>CIS</td>
<td>Challenge Individual Students</td>
<td>Difficulties due to one very ‘different’ student</td>
<td>There’s one boy who quite clearly ..... doesn’t fit into mainstream and he doesn’t fit the criteria to be in the PMC - he’s in between</td>
</tr>
<tr>
<td>CSC</td>
<td>Challenge Set Curriculum</td>
<td>Difficulties due to teachers having to follow a set syllabus or curriculum</td>
<td>It’s quite difficult when you have a set curriculum with topics that you absolutely have to cover with them</td>
</tr>
<tr>
<td>CPX</td>
<td>Challenge Parental Expectations</td>
<td>Difficulties due to parents having different expectations from teachers</td>
<td>Parents may ask “Why don’t you do it for everybody?”</td>
</tr>
<tr>
<td>CRW</td>
<td>Challenge Reluctant Workers</td>
<td>Problems due to students choosing not to work as hard as the teacher perceives they could</td>
<td></td>
</tr>
<tr>
<td>CSV</td>
<td>Challenge Student Visibility</td>
<td>When the teacher perceives that the boys don’t want to be identified as receiving different treatment</td>
<td>When he doesn’t want to be seen to be the one asking a question in the top set .....</td>
</tr>
<tr>
<td>CSS</td>
<td>Challenge Subject Specific</td>
<td>When the teacher perceives that their subject is significantly more difficult to differentiate than other subject areas</td>
<td>It’s one of the most difficult areas to differentiate .....</td>
</tr>
</tbody>
</table>

Outcomes of differentiation

<table>
<thead>
<tr>
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<th>What it stands for</th>
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<tr>
<td>OPS</td>
<td>Outcome Positive [for] Students</td>
<td>Description of a differentiation strategy which the teacher felt worked and resulted in a positive outcome for the boys</td>
<td>We’re doing whole class writing/reading activities. And that’s working really, really well</td>
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<tr>
<td>ONS</td>
<td>Outcome Negative [for] Students</td>
<td>Description of a differentiation strategy which the teacher felt did not work and resulted in a negative outcome for the students</td>
<td></td>
</tr>
<tr>
<td>OPS</td>
<td>Outcome Perception [of] Students</td>
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<td>The boys are working in developmental groups and it’s quite funny; some of them don’t actually realise that they are in those groups</td>
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</tbody>
</table>
### Appendix Thirteen

**Coding manual Version 6 (final version)**

(H) after a code means “for higher ability students”

(L) after a code means “for lower ability students”

#### Reasons for/against differentiation

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<tr>
<td>RYT</td>
<td>Reason Yes Theoretical</td>
<td>Theoretical belief/reason why teachers do/should differentiate</td>
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#### Strategies used in classroom differentiation

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<th>Code</th>
<th>Strategy</th>
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<tr>
<td>CSO</td>
<td>Challenge School Operations</td>
<td>Comments on how logistics in terms of practical school operations make differentiating difficult</td>
<td>With the number of kids we’ve got, sometimes with some equipment, we’re looking at four kids to a group, which is unwieldy .....</td>
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LEADING CHANGE – EXPLORING STRATEGIES FOR CHANGING PEDAGOGICAL PRACTICES

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<th>Challenge Range [of] Abilities</th>
<th>Difficulties due to the sheer range of abilities in the class</th>
<th>Even within that top set there’s such a range of ability in these kids …..</th>
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<td>CIS</td>
<td>Challenge Individual Students</td>
<td>Difficulties due to one very “different” student</td>
<td>There’s one boy who quite clearly ..... doesn’t fit into mainstream and he doesn’t fit the criteria to be in the PMC - he’s in between</td>
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<td>CSC</td>
<td>Challenge Set Curriculum</td>
<td>Difficulties due to teachers having to follow a set syllabus or curriculum</td>
<td>It’s quite difficult when you have a set curriculum with topics that you absolutely have to cover with them</td>
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<td>CPX</td>
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<td>Difficulties due to parents having different expectations from teachers</td>
<td>Parents may ask “Why don’t you do it for everybody?”</td>
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<td>Challenge Reluctant Workers</td>
<td>Problems due to students choosing not to work as hard as the teacher perceives they could</td>
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<td>When the teacher perceives that the boys don’t want to be identified as receiving different treatment</td>
<td>When he doesn’t want to be seen to be the one asking a question in the top set …..</td>
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<td>When the teacher perceives that their subject is significantly more difficult to differentiate than other subject areas</td>
<td>It’s one of the most difficult areas to differentiate …..</td>
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Outcomes of differentiation

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<td>OPS</td>
<td>Outcome Positive [for] Students</td>
<td>Description of a differentiation strategy which the teacher felt worked and resulted in a positive outcome for the boys</td>
<td>We’re doing whole class writing/reading activities. And that’s working really, really well</td>
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<td>Outcome Negative [for] Students</td>
<td>Description of a differentiation strategy which the teacher felt did not work and resulted in a negative outcome for the boys</td>
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<td>OPS</td>
<td>Outcome Perception [of] Students</td>
<td>How the boys view being put into different ability groups or classes</td>
<td>The boys are working in developmental groups and it’s quite funny; some of them don’t actually realise that they are in those groups</td>
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Appendix Fourteen

Invitation letter to participants

July 2010

RE: Research Project: The impact of lesson observations and feedback on differentiation in the secondary school classroom.

Dear Participant

You have been selected to participate in this research because you are a teacher at the case study school who has shown interest in improving teaching practice.

The research is part of Julie Harris’ doctoral studies at the University of Western Australia. The aim of the research is to investigate how a programme of lesson observations and individualised feedback has an impact on teachers’ classroom practice, focusing on differentiated instruction. Data will be collected through interviews and lesson observations. Data will be reported in Julie’s thesis and possibly through publication in scholarly or professional journals. Names and other potentially identifying information of the participating school and teachers will not be disclosed in the thesis or any other publications and all efforts will be made to protect the anonymity of participants.

Upon completion of the research, all data collected will be destroyed.

The study has a number of potential benefits. It will be of direct benefit to the School as it develops both observational and feedback protocols as well as normalising the practice of formal lesson observations. It will be significant to the Western Australian secondary education system as it will provide models of best practice for differentiated teaching and learning and models of best practice for supporting teachers in this reform, through observation and feedback. It will also contribute to the literature in terms of investigating effective interventions to develop the pedagogical practices of classroom teachers.

As a participant in this study, you are free at any time to withdraw consent to further participation without giving justification for this decision. If you choose to withdraw from the study, any data collected from you will be destroyed unless you agree otherwise.

Your participation in this study does not prejudice any right to compensation, which you may have under statute or common law.
If you have any questions regarding the research, please feel free to contact me, Professor Grady Venville, on 64883811 or by email at grady.venville@uwa.edu.au, or Julie Harris on 94421573 or by e-mail at juharris@****.wa.edu.au.

If you are willing to participate in this study, please sign the attached consent form and return it to Julie Harris by school mail box. A copy of the information and consent form will be returned to you for your records.

Grady Venville             Julie Harris
(Supervisor)                (Doctoral Student)
### Appendix Fifteen

**Summary of coding findings**

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<thead>
<tr>
<th>Ms Hague (CH)</th>
<th>Mr Edwards (PE)</th>
<th>Ms Lacey (CL)</th>
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<th>Mr Evans (HE)</th>
<th>Dr Oliver (HO)</th>
<th>Mr O'Connor (RO)</th>
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LEADING CHANGE – EXPLORING STRATEGIES FOR CHANGING PEDAGOGICAL PRACTICES

Key:

[(H) after a code means “for higher ability students”; (L) after a code means “for lower ability students”]

Reasons for/against differentiation

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Strategies used in classroom differentiation

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Challenges involved in differentiating teaching

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Outcomes of differentiation

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References

(n.d.).
(2011, April 16).
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http://www.greenfield.durham.sch.uk/differentiation.htm


LEADING CHANGE – EXPLORING STRATEGIES FOR CHANGING PEDAGOGICAL PRACTICES


LEADING CHANGE – EXPLORING STRATEGIES FOR CHANGING PEDAGOGICAL PRACTICES


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LEADING CHANGE – EXPLORING STRATEGIES FOR CHANGING PEDAGOGICAL PRACTICES


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