IDENTIFYING FACTORS THAT BRIDGE THE RESEARCH INTO PRACTICE GAP IN INCLUSIVE EDUCATION: AN ANALYSIS OF SIX CASE STUDIES

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

at

Charles Sturt University

By

Christine Grima-Farrell

Diploma of Teaching, Bachelor of Education, Masters of Inclusive Education

Charles Sturt University

April, 2012
Certificate of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgment is made in the thesis. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

I agree that this thesis be accessible for the purpose of study and research in accordance with the normal conditions established by the Executive Director, Library Services or nominee, for the care, loan and reproduction of theses.

Signature: Date:
Acknowledgements
Abstract

Advances in research on evidence-based practices for educating students with disabilities have generated a strong knowledge base that can underpin efforts to make classrooms more inclusive. Despite these advances, there remains a significant gap between our accumulated knowledge about effective educational practices and the extent to which they are utilized. This inability to bridge the research to practice gap, has an adverse effect on the progress of inclusion in schools and the ability of individual teachers to respond to the needs of all students. This project built on prior knowledge and promoted a greater comprehension of the factors that both enabled and interfered with the successful translation of research to practice (RTP) in inclusive education, with a specific focus on the role of teacher preparation.

The context for the study was a graduate (Masters level) teacher preparation course in inclusive education designed specifically for a cohort of practicing graduate teachers from a regional educational authority. The capstone experience for the course was the design and implementation of an inclusive education intervention in an applied setting. The year-long course project involved identifying and implementing an approach to learning and/or teaching that had the potential to be scaled up (i.e., used by other teachers and students) and sustained within the setting. Six of the ten students in the cohort participated in the investigation that employed an ex post facto case study approach to study their projects. Five case studies were set in primary schools and one was set in a secondary school. The trajectory of each case is described including projects that terminated after one year, those that were sustained, those that scaled within a school and those that were scaled beyond a single school setting.
The goals of this study were three fold. The first was to explore and then apply the existing literature on RTP as a framework to investigate the six diverse RTP cases conducted over a multi-year period (including some that are ongoing) in a range of education settings. The second goal was to identify and explain factors that contributed to the status of research based projects in practical application. This included the explanation of factors that contributed to both the success and difficulty in sustaining and scaling research-based innovation. The third goal of this research was to expand upon RTP knowledge through validating and building upon these assertions. As a result a specific focus on the role of graduate teacher preparation as a vehicle for sustaining and scaling research based practice, was conducted to further enhance the understanding of ways to create inclusive classrooms and schools.
# Table of Contents

Certificate of Authorship .................................................................................................. ii
Acknowledgements ........................................................................................................... iii
Abstract .............................................................................................................................. iv
List of Tables ....................................................................................................................... xii
List of Figures ...................................................................................................................... xiii

## Purpose of this Study

14

## Introduction

16

### 1.1 The Direction of this Investigation

19

#### 1.1.1 Exploration phase

Error! Bookmark not defined.

#### 1.1.2 Explanation phase

Error! Bookmark not defined.

#### 1.1.3 Expansion phase

Error! Bookmark not defined.

## Chapter 2

22

### Review of the Literature

22

#### 2.1 Inclusion

23

#### 2.2 Research into Practice

28

#### 2.3 The research to practice gap

29

#### 2.4 Method employed to review the RTP literature

30

##### 2.4.1 Research into Practice

41

###### 2.4.1.1 Research-to-Practice Commentary Claims and Assertions

42

###### 2.4.1.2 Related RTP intervention research

45

###### 2.4.1.3 Professional Development and RTP

51

###### 2.4.1.4 Teacher Education and RTP

60

###### 2.4.1.5 Comprehensive School Reform and research to practice

69

#### 2.5 Concerns Based Adoption Model (CBAM)

81

#### 2.6 Stages of Concern

82

#### 2.7 Levels of Use

83

#### 2.8 Innovation Components

85

#### 2.9 Review of the literature

98

#### 2.10 Literature review conclusion

102

## Chapter 3

106

### Methods

106

#### 3.1 Introduction

106

#### 3.2 Overview and Purpose of the Study

106

##### 3.2.1 Exploration phase

Error! Bookmark not defined.

##### 3.2.2 Explanation phase

Error! Bookmark not defined.

##### 3.2.3 Expansion phase

Error! Bookmark not defined.

#### 3.3 Case Study Research Design

110

#### 3.4 Types of Case Studies

111

##### 3.4.1 Causal comparative case study

115

##### 3.4.2 Definition

116

#### 3.5 Five Components of Research Design (Yin, 1994)

117
Results .........................................................................................................................117
3.5.1. A study's question..................................................................................................117
3.5.2. A study's propositions............................................................................................118
3.5.3. A study's unit(s) of analysis..................................................................................118
3.5.4. A study's linking data to propositions and criteria for interpreting findings. . 118

3.6. Replication Within the Multiple Case Study Design ..............................................122
3.7. Validity, Reliability and Trustworthiness in Case Study Research ......................125
  3.7.1. Reliability and validity .........................................................................................125
  3.7.2. Trustworthiness ..................................................................................................126
3.8. Logical Positivism ....................................................................................................127
3.9. Triangulation ...........................................................................................................133
3.10. Participant Research ..............................................................................................134
3.11. Strengths and Limitations of a Causal-Comparative Case Study Design136
  3.11.1. Strengths ..........................................................................................................137
  3.11.2. Limitations ........................................................................................................137
3.12. Data Collection Approaches ..................................................................................139
3.13. Data Analysis .........................................................................................................143
3.14. Theoretical Propositions .......................................................................................143
3.15. Procedures .............................................................................................................145
3.16. Participants .............................................................................................................145
3.17. The Settings ...........................................................................................................146
3.18. Phased Research Questions ....................................................................................146
3.19. Data Collection Sequence .....................................................................................149
3.20. Literature Investigation - Factors Derived From Literature That
    Contribute to the Status of Research Based Projects ..............................................151
  3.20.1. Interviews ..........................................................................................................157
  3.20.2. Survey ................................................................................................................157
  3.20.3. Focus groups ......................................................................................................158
  3.20.4. Permanent product record ................................................................................159
  3.20.5. Ethical and methodological implications ..........................................................160
  3.20.6. Recording of results ..........................................................................................161

Chapter 4 .......................................................................................................................163

Results ............................................................................................................................163

4.1. Exploration Phase ....................................................................................................163
  4.1.1. Exploration phase questions ...............................................................................163
  4.1.2. Explanation phase questions .............................................................................165
  4.1.3. Expansion phase questions ................................................................................165

4.2. Introduction to the Background and Context of the Cases .....................................166
  4.2.1. Participants .........................................................................................................168

4.3. Introduction to Individual Participant and Case Details ........................................170
  4.3.1. Case 1- Chris (Year 2- Curriculum-Based Measurement- DIBELS- Oral
        Reading Fluency) ....................................................................................................170
        4.1.1. My reported program implementation integrity .........................................173
        4.1.2. Results of the project .....................................................................................173
        4.1.3. Scaling up of the project .................................................................................174
4.3.2. Case 2 - Mary (Kindergarten - Curriculum Based Measurement - DIBELS - Initial Sound Fluency and Letter Naming Fluency) .................................................. 174
1.1.1.9. 4.4.2.1. Mary's reported project implementation integrity .................. 177
1.1.1.10. 4.4.2.2. Results of the project ..................................................... 179
1.1.1.11. 4.4.2.3. Scaling up of the project ................................................. 180
4.3.3. Case 3 - Diane (Years 7 to 10 - Curriculum-Based Measurement - Peer Assisted Learning) ........................................................................................................... 180
1.1.1.12. 4.4.3.1. Diane's reported project implementation integrity .......... 182
1.1.1.13. 4.4.3.2. Results of the project ..................................................... 183
1.1.1.14. 4.4.3.3. Scaling up of the project ................................................. 184
4.3.4. Case 4 - Wilma (Year 6 - Curriculum-Based Measurement - DIBELS - Oral Reading Fluency) ........................................................................................................... 184
1.1.1.15. 4.4.4.1. Wilma's program implementation integrity .................... 185
1.1.1.16. 4.4.4.2. Results of the project ..................................................... 186
1.1.1.17. 4.4.4.3. Scaling up of the project ................................................. 186
4.3.5. Case 5 - Sam (Year 1 - Explicit Teaching as a practice for quality teaching) 187
1.1.1.18. 4.4.5.1. Sam's reported program implementation integrity .......... 189
1.1.1.19. 4.4.5.2. Results of the project ..................................................... 190
1.1.1.20. 4.4.5.3. Scaling of the project .................................................... 192
4.3.6. Case 6 - Meg (Year 3-Peer Assisted Learning - Spelling) ..................... 192
1.1.1.21. 4.4.6.1. Meg's reported program implementation integrity .......... 194
1.1.1.22. 4.4.6.2. Project results ................................................................. 194
1.1.1.23. 4.4.6.3. Scaling of the project .................................................... 195
4.4. Summary of the reported implementation integrity of the projects ..... 195
4.5. Summary of the status of the Projects .................................................. 197
4.5.1. Definitions of Operational Categories: ............................................ 197
4.5.2. Exploration Phase ................................................................. 199
4.5.3. Exploration phase ........................................................................ 202
1.1.1.24. 4.6.3.1. What factors have been identified in literature that contributes to sustaining RBP in inclusive educational settings? .............................................. 202
4.6. Factors identified by participants prior to the introduction of RTP
knowledge identified in the literature ................................................. 209
What RTP factors were identified through initial teacher interviews? ............. 209
4.7. Participant responses to the first round of interviews .......................... 210
4.7.1. Support .............................................................................. 211
1.1.1.25. 4.8.1.1. Shared responsibility and accountability ............. 211
1.1.1.26. 4.8.1.2. Resources ................................................................. 212
1.1.1.27. 4.8.1.3. Consistent and long term support .............................. 213
1.1.1.28. 4.8.1.4. Shared ownership and responsibility ....................... 214
1.1.1.29. 4.8.1.5. Shared goals ................................................................. 215
1.1.1.30. 4.8.1.6. Technology ................................................................. 216
1.1.1.31. 4.8.1.7. Leadership ................................................................. 217
4.8. Teacher Education .................................................................... 219
4.8.1. Depth of knowledge .................................................................. 220
4.8.2. Structure of the course .............................................................. 222
4.8.3. Collaboration and sufficient preparation .................................... 223
4.9. RTP factors not identified in the literature .................................. 225
4.9.1. Role of the student and the parents ........................................... 225
Chapter 6.12.5. Summative overview of the data collected through the three phases of this study...

6.12. Introduction of the RTP Model...

6.12.6. Description of the RTP model and the complex and cyclic interconnection between the identified components...

6.13. Examples of the application of the RTP Model...

6.14. Future utility of the RTP Model...

6.14.1. Summary...

6.15. Limitations of the study and recommendations for future research...

6.16. Conclusion...

Chapter 7. References...
List of Tables

Table 3.1 The 3x2 table below displays Yin’s (1993, p.5) six different types of case studies

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Effective Research Based Programs</td>
<td>14</td>
</tr>
<tr>
<td>2.2 Research to Practice Key Themes and Related Factors</td>
<td>54</td>
</tr>
<tr>
<td>2.3 Consistency and development of RTP literature based within and across identified areas</td>
<td>58</td>
</tr>
<tr>
<td>3.1 Yin’s Six Different Types of Case Studies</td>
<td>67</td>
</tr>
<tr>
<td>3.2 Data Collection Tools, Advantages and Limitations</td>
<td>84</td>
</tr>
<tr>
<td>3.3 Participant Information and Case Study Number</td>
<td>88</td>
</tr>
<tr>
<td>3.4 Case Setting Details</td>
<td>88</td>
</tr>
<tr>
<td>3.5 Data Collection Sequence and details</td>
<td>92</td>
</tr>
</tbody>
</table>
## List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Literature Review road map</td>
<td>12</td>
</tr>
<tr>
<td>3.2</td>
<td>Operational Pathway</td>
<td>69</td>
</tr>
<tr>
<td>3.3</td>
<td>Overview Linking Yin’s (1994) Components of Research Design</td>
<td>71</td>
</tr>
<tr>
<td>3.4</td>
<td>Replication Logic</td>
<td>73</td>
</tr>
<tr>
<td>3.5</td>
<td>Case Study Validity Tactics</td>
<td>77</td>
</tr>
<tr>
<td>3.6</td>
<td>Convergence of Multiple Data Sources of Evidence</td>
<td>78</td>
</tr>
<tr>
<td>3.7</td>
<td>Multiple Causal-Comparative Case Study Design Research and Question Overview</td>
<td>90</td>
</tr>
</tbody>
</table>


**Purpose of this Study**

The core motive which underpinned this study was the demand for educators to be responsive to inclusion as a movement through the use of research based practice to bridge the research to practice gap (Ashman & Elkins, 2011; DETYA, 2000; Disability Standards, 2005; Foreman, 2005; Fullen et. al., 1998; Innes, 2007; Singal, 2008; Slee, 2005; Westling & Hobbs, 1998; Villa & Thousand, 2000).

This research responded to the call for more effective practice based knowledge on the translation of research to practice by investigating projects that were the capstone experience of a graduate level teacher education program. A number of factors have been presented as contributors to the gap between research and practice. They include research not being designed to make a practical difference (Billups, 1997; Carnine, 1997; Foegan, Espin, Allinder, & Markell, 2001; Malouf & Schiller, 1995; Sydoriak & Fields, 1997), and inadequate linkages between teacher preparation programs and the workplace (Bain, 2004; Grima-Farrell, Bain & McDo noagh, 2011; Goodlad, 1990; Morrissey, 1997).

This study determined whether a series of applied research based projects, required as part of a graduate teacher preparation experience, were implemented, sustained or scaled. In doing so it identified the factors that contributed to the status of the projects over time. The study employed prior knowledge of factors that contributed to the successful translation of research to practice and sought to identify new sources of influence. In summary the purpose of the study was to develop a greater understanding of ways in which education programs and educators could promote and foster the use of valuable research to enhance inclusion. This knowledge should
assist teachers in successfully responding to diversity in classrooms, schools and systems. This study presented the critical factors, asserted by researchers and educators, that could be used in research to practice projects to enhance the sustained use of effective research based applications. Knowledge of these factors could also influence the way graduate teacher education programs are designed to bridge the gap between research and practice.
Introduction

A well-documented global movement exists which urges educators to make schools, and classrooms more responsive to the needs of all children (Ashman & Elkins, 2011; Darling-Hammond, 2011; Disability Standards, 2005; Foreman, 2005; Fullan et al., 1998; Hattie, 2011; Loreman, Deppeler & Harvey, 2011; Slee, 2005; Villa & Thousand, 2000; Westling & Hobbs, 1998). Advances in research on evidence-based practices for educating students with a diverse range of abilities has contributed to a strong knowledge base that can be employed to underpin efforts to make classrooms more inclusive (Cunningham & Cunningham, 1992; Cunningham & Hall, 1994a, 1994b; Delquadri, Greenwood, Whorton, Carta, & Hall, 1986; Fuchs & Fuchs, 1998; Gersten & Vaughn, 1997a, 1997b; Harry, Allen & McLaughlin, 1995; Klingner, Vaughn, & Schumm, 1998; Lloyd, Weintraub & Safer, 1997; Loreman, Deppeler & Harvey, 2011; Mastropieri & Scruggs, 1998; Mathes & Fuchs, 1993; Vaughn, 2000; Vaughn, Klingner & Hughes, 2000).

Best practice examples that promote inclusion, through making classrooms more responsive to students’ needs, include cooperative learning, explicit teaching, peer tutoring, direct instruction, Curriculum Based Assessment (CBA) and Curriculum Based Measurement (CBM) (Deno, 2003; Golder, Norwich, & Bayliss, 2005; Good, Kaminski, Simmons, Kame'enui, & Oregon School Study Council, 2001; Good, Simmons, & Kame'enui, 2001; Griffin & Warden, 2006; Hattie, 2009; The ERIC clearinghouse on disabilities and gifted education, 2003; Villa & Thousand, 1996c). These approaches have been shown to improve the achievement of all students and
are essential for differentiating the content, process and product of classroom instruction (Fraser et al, 1987; Hattie, 2003; Marzano, 1998; Tomlinson, 2004;).

This body of knowledge on inclusion has the capacity to make curriculum, materials, school and classroom environments more responsive to students from different backgrounds with different learning styles. This knowledge should significantly reduce segregation based on performance levels or perceived abilities (Ashman & Elkins, 2011; Cunningham & Cunningham, 1992; Cunningham & Hall, 1994a, 1994b; Delquadri, et al, 1986; Good, Kaminski, Simmons, Kame’enui, 2001; Good, Simmons and Kame’enui, 2001; Klingner, Vaughn, & Schumm, 1998; Mathes & Fuchs, 1993; Vaughn et al., 2000; Harry, Allen & McLaughlin, 1995, Gersten, et al., 1997; Lloyd et al., 1997; Loreman, Deppeler & Harvey, 2011; Fuchs & Fuchs, 1998; Mastropiere & Scruggs, 1998; Vaughn, 2000). Despite these advances in research, there remains a significant gap between our accumulated knowledge about effective inclusive educational practices and the extent to which they are utilized (Foegan et al., 2001; Forness et al., 1997; Grima-Farrell et. al., 2011; Vaughn et al., 2000; Billups, 1997; Carnine, 1997). Klingner (2001) suggested that even when instructional practices specifically designed for heterogeneous classrooms have been implemented with positive outcomes, there is no guarantee that they will be sustained and most frequently they are not.

This inability to ‘bridge the gap’ between research and practice is well documented (Abbott, Walton, Tapia, & Greenwood, 1999; Carnine, 1997; Gersten, Vaughn, Deshler, & Schiller, 1997; Grima-Farrell et. al., 2011; Kauffman, 1993; Korthagen, 2007; Malouf & Schiller, 1995; National Joint Committee on Learning Disabilities,
It has had an adverse effect on the progress of inclusion in schools and the ability of individual teachers to respond to the needs of all students. International efforts to improve the use of research to address the diverse needs of classrooms and schools has generated extensive literature on inclusion, best practice, professional development and school reform (Bain, 2007b; Daniels & Vaughn, 1999; Darling-Hammond, 2011; Darling-Hammond, Dozer, Johnston, & Rogers, 2006; Deno, 2003; Epstein, 1996; Francis, 2002; Golder, et al., 2005; Griffin & Warden, 2006; Gunstone & Northfield, 1993; J. K. Klingner, S. Ahwee, P. Pilionieta, & R. Menendez, 2003; Schneider & McDonald, 2006; Shallcross, Loubser, Le Roux, O'Donoghue, & Lupele, 2006; Wanat, 1999).

This challenge of implementing, sustaining and scaling research efforts in classrooms and schools remains largely unresolved for both educators and researchers.

Much has been written about the challenge of narrowing the gap between ‘theory’ or research and practice as a major problem in education (Abbott, Walton, Tapia, & Greenwood, 1999; Carnine, 1997; Gersten, Vaughn, Deshler, & Schiller, 1997; Kauffman, 1993; Malouf & Schiller, 1995; Korthagen, 2007; Korthagen, 2010; Richardson, 1996; Schultz, 2010; Stanovich & Stanovich, 1997). Few studies have generated objective evidence about the specific factors that affect the implementation and sustainability of these practices in classroom and school applications (Billups, 1997; Brouwer & Korthagen, 2005; Darling-Hammond & Baratz-Snowden, 2007; Francis, 2002; D. Fuchs & L. S. Fuchs, 1998; Gersten, Chard, & Baker, 2000). The
predominance of literature in the area is based upon opinion and commentary derived from the reflections and insights of researchers.

In order to build a more complete understanding of the factors that contribute to RTP a need to investigate and develop the assertions made in commentary pieces through applied intervention research was required. Areas posited in the RTP literature that were attributed to impacting RTP efforts included; the integrity with which research is implemented, the responsiveness of research to the needs of classrooms and schools, the extent to which feedback is embedded and the completeness or comprehensiveness of the design. These assertions required investigation through empirical research for their validation as significant contributors to RTP efforts. A deeper understanding of these factors could inform teacher preparation programs and enhance the use of research-based practices to address the needs of all students.

1.1. The Direction of this Investigation

This investigation consisted of three phases; an exploration, explanation and expansion phase. The initial exploration phase focused heavily on instantiating factors identified in the existing literature as influences on direct six RTP cases. The second phase was an explanation phase that built on the exploration phase to broaden the comprehension of RTP efforts through directly examining the range of specific RTP cases. The final, expansion phase, built on this accumulated RTP knowledge and provided an opportunity for an open discussion which identified consistencies and the recognition of additional factors that resulted from direct RTP experiences.
This approach explored, explained and expanded the understanding of the factors that contributed to the status of research-based projects as a way of enhancing and sustaining validated RTP efforts. The overarching research question was planned to be answered through the research questions below which are presented in the respective exploration, explanation and expansion phases. The data collected through each of these phases was analyzed and used to inform the direction of the data collection through the subsequent stages. Given this methodological approach, the original research questions were modified and the additions to the original research questions are represented by the italic text.

1.1.1. **Overarching Research Question**

What are the factors and relationships between them that contributed to the status of research-based projects in inclusive education settings?

1.1.2. **Exploration phase questions.**

What factors that have been identified in previous literature contribute to sustaining RBP in inclusive education settings? How have these factors been identified? To what extent have these factors been validated through empirical research? What are the existing key RTP gap contributors identified through initial teacher perception? How do they compare to existing literature?

1.1.3. **Explanation phase questions.**

How do factors identified in the cases contribute to the status of RBP in inclusive education settings? In what ways do those factors exert an influence?
Additional question established after the analysis of the data collection through the exploration and explanation phases- How have the identified relationship between factors exerted an influence on the practical application and sustainment of the projects?

1.1.4. Expansion phase questions.

What factors, other than those identified in the exploration and expansion phases, contribute to the status of RBP in inclusive education settings?

Additional question established after the analysis of the data collection through the exploration and explanation phases- What were the differences and consistencies in the relationships between the RTP factors that contributed to the status of the projects that were identified by the research participants?
Chapter 2.

Review of the Literature

The discussion of research into practice is extensive, yet there are few empirical studies specifically focused on the factors impacting upon the translation of research to practice in inclusive education settings. This review integrates, in a narrative approach, the larger commentary literature with a smaller number of related research studies.

This literature review is presented in three sections. The first section defines and describes the area of inclusion in order to situate the study and explain the content, context and circumstances for the research to practice issues investigated. The parameters of the review are set within this area of inclusion to include five main bodies of literature that strive to link educational research and practice efforts. These parameters were derived from key RTP factors that were consistently presented in the literature.

The second section presents the consistencies in the five bodies of literature to identify the RTP factors in existing literature that are reported to contribute to the status of research based projects. This literature, while limited in terms of direct RTP examples, explored the areas of Research to Practice (RTP), Professional Development (PD), Teacher Education (TE), Comprehensive School Reform (CSR) and Concerns Based Adoption Model (CBAM). The PD and TE searches focussed specifically on the translation of research to practice. The CSR literature was examined as it constituted a large-scale effort, with guidelines specifically requiring
the implementation of research based practices at scale. The CBAM was explored as it represented a prolifically used longstanding model related to adopting change. The purpose of including CSR and CBAM was to go further in identifying more specific factors not generated by the RTP, PD and TE literature. Figure 2.1 presents a visual representation of the path this literature review travelled within an inclusive education framework as the investigation of one body of literature led to the next.

The third section of the review offers a summary within each area of the literature and is followed by an overview that reconciles key themes and factors for consideration when addressing RTP in inclusive education settings. It concludes with two tables. Table 2.1 presents a summary of the literature included in this review. Table 2.2 is a comprehensive table that presents the consistency and expansion of RTP factors within identified themes, across the five bodies of literature.

Figure 2.1 Literature review road map

2.1. Inclusion

It is acknowledged that Inclusive Education has a range of interpretations both nationally and internationally and debates concerning its definition and ownership exist. For the purpose of this study notions of inclusive education are aligned with those presented in the Salamanca Statement and Framework for Action (UNESCO, 1994). The Statement re-affirms every individual’s right to education. It also supports the 1993 UN Standard Rules on the Equalisation of Opportunities, which
states that the education of children with disabilities should be an integral part of education systems.

Through this study inclusion is referred to as a commitment to educate students with disabilities in high quality, age appropriate, general education classrooms in their local communities (Allen & Cowdery, 2011; Ashman & Elkins, 2011; Duhany, 1999; O'Neil, 1994; Loreman, Deppeler & Harvey, 2011; Smith, Polway, Patton, & Dowdy, 1998). Foreman (2005) states that inclusion is based on the philosophy that schools should provide for the needs of all students in their communities regardless of their abilities or disabilities. Inclusive schools welcome, celebrate and cater for diversity ensuring that all students share the same rights and have the opportunity to reach their full potential (Villa and Thousand, 2000, p.37). Over the two past decades, efforts to make classrooms more responsive to the needs of diverse learners have produced educational guidelines, policies and ethical standards that frame efforts to create inclusive learning environments for all students (Allen & Cowdery, 2011; Duhaney, 1999; Gartner & Lipsky, 1987; Gottlieb, 1981; Loreman, Deppeler & Harvey, 2011; McLaughlin & Warren, 1992). The aim of those efforts was to provide the conditions whereby students experience a sense of belonging, mastery and independence in inclusive classroom and school settings.

This aim is strengthened by a global movement focused on supporting students with disabilities in mainstream settings. Innes (2007) highlighted the strong international support for catering for the rights of people with disabilities, in stating that on the 30th March 2007, Australia and 80 other countries supported the Disability Convention at the United Nations (UN) in New York. The Disability Convention
received the greatest number of signatures of any international convention on its first
day. With such a well-supported drive for the inclusion of all students, empowering
teachers who are at the forefront of making these inclusive visions a reality should be
a priority.

A strong body of research evidence on programs and interventions that cater for
student diversity and inclusive efforts exist. This includes research into Curriculum
Based Measurement (CBM) of reading which has developed at a rapid rate over the
past decade (Allinder & Beckbest, 1995; Capizzi & Fuchs, 2005; Deno, 2003; D.
Fuchs & L. S. Fuchs, 1998; Lembke & Espin, 2005; Madelaine & Wheldall, 2004;
Martens, et al., 2007; McGlinchey & Hixson, 2004; Stecker, Fuchs, & Fuchs, 2005).
Strong evidence of the technical characteristics, validity and positive effects of CBM
of reading has been produced. Validated effective math’s instructional techniques,
peer mediation, cognitive strategies, direct instruction and co-operative learning
strategies are also documented in a variety of applications (Allinder & Beckbest,
Fuchs et al, 1992; Jenkins and Jewell, 1993; Skin et al, 2000; Noble, 2010).

Despite the solid research base supporting the overwhelming benefits of CBM, direct
instruction, co-operative learning techniques, peer tutoring and other research based
intervention techniques, the implementation of these strategies has varied
considerably (Allinder & Swain, 1997; L. S. Fuchs & D. Fuchs, 1998; Miller,
George, & Fogt, 2005; Swain & Allinder, 1996) Noble, 2010). Many studies have
highlighted the advantages of these interventions (predominantly in American
schools), however there is a limited body of research available that provides
evidence that these validated interventions are extensively employed and sustained by teachers in school settings (Eckert et al., 1995; Hasbrouk et al., 1999; Hattie, 2009).

While the policy frameworks exist to encourage the widespread implementation of strategies including peer tutoring, co-operative learning, direct instruction and curriculum based measurement; their articulation in practice has remained an immense challenge (Crocket & Kauffman, 1998; Hattie, 2009; Lipsky & Gartner, 1998; Korthagen, 2007; Korthagen, 2010; Schultz, 2010; Shanker, 1995; Zigmond & Baker, 1996). The translation of research into practice is a complex process involving change at all levels of the school and system. Forlin (2007) states that for inclusive education to become a reality, teachers need to be sufficiently trained and willing to support this reform (Darling-Hammond, 2011; Forlin & Lian, 2008; Wilczenski, 1992).

A range of teacher training sources exists for the purpose of sustaining and scaling research into practice. Some of these training experiences include PD events led by school systems or consultants as well as university pre service and graduate teacher education programs. Teacher education has been presented throughout the literature as a key source of educational change in a range of areas including RTP (Brouwer & Korthagen, 2005; Darling-Hammond, 2006a; Gravani, 2008; Kochanek, 2005; Simmons, et al., 2000). It is especially pertinent to this study as all participants experienced the same Masters of inclusive education program and it represented an avenue that collaboratively linked school and university RTP efforts (Capizzi & Fuchs, 2005; Darling-Hammond & Baratz-Snowden, 2007; D. Fuchs & L. S. Fuchs,
Knowledge of factors that promote the implementation and sustainment of research-based practices may promote the use of comprehensive and appropriate education programs to assist children with and without disabilities through the merger of resources, knowledge, and talents of general and special educators (Lipsky & Gartner, 1998; Sailor, et al., 1993; Stainback & Stainback, 1991).

In brief for the purpose of this review inclusion is referred to as the commitment to educate each child, to the maximum extent appropriate, in the school and classroom he or she would otherwise attend (Sailor, 1991; Rogers, 1993). Inclusion is the right of all individuals with disabilities to be included in naturally occurring settings and activities with their siblings and neighbourhood peers (Allen & Johnson, 2012; Ashman & Elkins, 2011; Erwin, 1993). This approach requires educators to respond to the diversity of student needs in ways that are beneficial to students with and without disabilities. Through raising awareness of the factors that have supported the implementation and sustainment of research-based strategies, educators and researchers may gain a deeper understanding of ways to use research to cater for the needs of an increasing range of diverse learners in mainstream settings (Korthagen, 2007; Sharma, et. al., 2006).

This approach to inclusive education represents a whole school concern that strives to align special education with all other school-based resources, including general education in a manner that most effectively and efficiently imparts quality education to all students (Lipsky & Gartner, 1997). Lipsky & Gardner’s (1997) conceptualization of inclusion is of importance to research to practice initiatives, as
they both require education systems to respond to the diversity of all learners. The following section strives to identify those factors critical to the implementing and sustaining research in schools and classrooms. The data collection tools were developed from the RTP factors collected through this literature review in an attempt to bind the content, context and circumstances that link research to practice efforts in diverse classroom applications.

2.2. Research into Practice

This RTP section of the literature review identified the unique challenges associated with linking educational theory to practice in an inclusive education frame. Explanation of the terms theory and research are presented to promote consistency in the interpretation of terms through this investigation. Specifically, this section explored the long standing concern that evidence based research knowledge is not being used to its full potential in practical applications. This section identified the need to narrow the gap between research and practice; this is especially compelling and problematic in the area of inclusion (Mitchell, 2008).

It is acknowledged that the term theory is over interpreted to mean both theory and research in RTP literature. The expression theory represents a depth of thought, concepts and ideas that provide an explanation of how and why a phenomenon exists. Research refers to the use of facts and information collected from the gathering of data that has contributed to increased knowledge (Bogdan & Biklen, 1982; Miles & Huberman, 1994). The oversimplification and synonymous use of these terms may be problematic. The purpose of this study was not to debate the terminology issue but to acknowledge the way in which they have been conflated in
discussions of RTP issues and to clarify that for the purpose of this study the term research to practice was investigated.

2.3. The research to practice gap.

The inability of educators to "bridge the gap" between our accumulated knowledge about effective inclusive educational practices and the extent to which they are utilized is well documented (Abbott, Walton, Tapia, & Greenwood, 1999; Carnine, 1997; Gersten, Vaughn, Deshler, & Schiller, 1997; Kauffman, 1993; Korthagen, 2007; Korthagen, 2010; Malouf & Schiller, 1995; National Joint Committee on Learning Disabilities, 1999; Richardson, 1996; Stanovich & Stanovich, 1997). While empirical evidence that directly examines these assertions does not exist, relevant research that contributes to RTP knowledge has been identified. This research included the investigation of a spectrum of intervention research examples and large-scale reform efforts whose criteria was driven by the implementation of research-based practices.

An initial broad literature search using the descriptor research into practice located 1158 references. Of these results, references were made to a wide range of areas including public health, medical, alcohol and drug related fields and education. The introduction of the term education as a descriptor narrowed the search to 440 references, yet public welfare, social services and medical care continued to feature strongly in this set. Knowledge of the causes, cures and general assertions pertaining to the RTP gap was largely based on commentary or position pieces. Many of these claims included researchers drawing upon the cumulative experience of others in the field to offer suggestions as to why the gap exists and ways to address these concerns.
(Carnine, 1997b; Foegen, Espin, Allinder, & Markell, 2001; Gersten, et al., 2007a; Gunstone & Northfield, 1993). No empirical research examples that directly examined research into practice factors and experiences, using a number of research-based programs across a variety of settings were identified. Given the lack of this type of direct empirical investigation of RTP, the related work that focuses on RTP commentary, research based interventions; recent school reform efforts and the Concerns Based Adoption Model were used to guide this research.

2.4. Method employed to review the RTP literature

Relevant studies from 1967 to the present were located through an EBSCOnhost (Education) database search. EBSCOnhost was selected as it included the most complete selection of references with the least number of repeated entries. Studies were included in this review if they appeared in a published peer-reviewed journal and identified specific RTP, professional development (PD), teacher education (TE), Comprehensive School Reform (CSR) or Concerns Based Adoption Model (CBAM) factors which could be beneficial in translating the work of researchers to address the needs of students in school settings.

Descriptors were introduced in the following sequence: research into practice (1158 references), inclusive education (limited results), education (440 references), research to practice and education (80 results). Of the 80 articles located using the terms research to practice and education, 29 were selected for this review as they specifically discussed the use of research-based programs in primary, secondary and university settings.
A second search was conducted regarding PD, as RTP is a common focus of PD efforts although it is not treated in depth in many discussions (Ax, Ponte, & Brouwer, 2008; Klingner, Vaughn, Arguelles, Hughes, & Leftwich, 2004; Ysseldyke, 1989). The identification of relevant literature commenced with an all-field search using *research to practice, education and professional development* as descriptors. Of the 296 citations, many made only brief mention of RTP issues and included work in fields of nursing, engineering and mental health. An abstract search using the same descriptors identified eight articles that specifically presented detailed discussions of PD as a comprehensive or longitudinal approach to address the RTP gap in education. Articles that made reference to PD in fields other than education and did not refer to the RTP gap were not selected for this review.

A third search was conducted in the area of teacher education. TE represented an avenue that links the efforts of researchers and educators who work in inclusive education environments to enhance RTP endeavours (Darling-Hammond, 2011; Everington & Hamill, 1996; Golder, Norwich, & Bayliss, 2005; Korthagen, 2007; Villa & Thousand, 1996). Like PD, TE was expected to have a RTP agenda, however, the TE literature indicated that while RTP remains a concern, it was often discussed in depth (Carnine, 1997; Darling-Hammond, 2006a; D. Fuchs & L. Fuchs, 1998; Gravani, 2008). An all-field search using *research into practice and teacher education* as descriptors located 440 references. A review of the abstracts identified that many references made only limited mention of RTP issues. Subsequently, this search was refined through an abstract search using the same descriptors and located 90 references. These articles were scrutinised and 12 were located based on the
criteria that they must have made reference to TE and identified RTP factors. Of these 12 references a refined search was conducted and 4 offered a sound representation of RTP implementation factors as a result of TE efforts.

The review was expanded to gain additional knowledge on other factors that had an impact on the RTP phenomenon and could inform the way research is established in practice. Comprehensive school reform (CSR) and Concerns-Based Adoption Model (CBAM) represent such approaches. These initiatives have the capacity to deepen our comprehension of change elements through direct research examples and in turn raise an awareness of related RTP factors.

A fourth search was conducted in the area of Comprehensive School Reform (CSR) literature as it represents a large-scale effort whose guidelines specifically require the implementation of Research based practices at scale. An all-field search using comprehensive school reform as a descriptor located 1168 references. A review of the abstracts identified that many references made only limited mention of RTP issues. Subsequently, this search was refined through an abstract search using CSR and implementation as descriptors, which located 110 references. This search was further refined when program implementation replaced implementation as an abstract search descriptor as it aimed to identify the implementation concerns that may constitute RTP issues or factors. Of the 12 references that were located as a result of this refined search 8 offered a sound representation of RTP implementation factors as a result of CSR efforts.
The fifth and final search was conducted in the area of Concerns Based Adoption Model as it represents a prolific longstanding model related to adopting change. Increased knowledge of concerns associated with change may raise awareness of ways to promote future RTP efforts. An all field search conducted using Concerns-Based Adoption Model as a descriptor located 187 references. A review of the abstracts identified that many references made only limited mention of RTP issues. Subsequently, this search was refined through an all field search using Concerns-Based Adoption Model and Program implementation as descriptors and located 25 references. These articles were scrutinised based on the criteria that they must have made reference to CBAM and identified RTP factors. Many of these references presented descriptive aspects of CBAM. A final search using Concerns-Based Adoption Model, research and practice as descriptors in an abstract search located 6 references. Of these references 5 references presented a sound representation of RTP implementation factors as a result of CBAM efforts.
<table>
<thead>
<tr>
<th>Study</th>
<th>Category</th>
<th>Participants</th>
<th>Focus area</th>
<th>Major conclusions/RTP factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foegen, Espin, Allinder, &amp; Markell (2001)</td>
<td>RTP</td>
<td>45 Preservice teachers</td>
<td>Preservice teachers beliefs about CBM</td>
<td>Researchers disseminate their findings effectively and practitioners review research</td>
</tr>
<tr>
<td>Foorman &amp; Moats (2004)</td>
<td>RTP</td>
<td>1400 (K–4) Students from 17 low performing schools in Houston and Columbia</td>
<td>Early reading instruction and RTP</td>
<td>Trustworthiness and speed of TE and PD were obstacles to RTP</td>
</tr>
<tr>
<td>D. Fuchs &amp; L. Fuchs (1998)</td>
<td>RTP</td>
<td>7 teachers from Nashville schools</td>
<td>Maths Peer Assisted Learning Strategies (PALS)</td>
<td>Partnership survival requires continuous work</td>
</tr>
<tr>
<td>Fuchs &amp; Fuchs (2001)</td>
<td>RTP</td>
<td>Researchers and educators working with 25 students</td>
<td>Maths Peer Assisted Learning Strategies (PALS)</td>
<td>Inadequate teacher demand for research</td>
</tr>
<tr>
<td>Vaughn, Klingner, &amp; Bryant (2001)</td>
<td>RTP</td>
<td>Summary of Collaborative Strategic Reading (CSR) studies</td>
<td>Describes four CSR strategies and the role of peer-mediated instruction.</td>
<td>Supportive partnerships promote trust in research</td>
</tr>
<tr>
<td>DETYA (2000)</td>
<td>RTP</td>
<td></td>
<td>Comprises the following 5 studies</td>
<td></td>
</tr>
<tr>
<td>Research and its Impact on Australian Schools</td>
<td>RTP</td>
<td>Postgraduate students, practitioners, principals, professional associations, policymakers</td>
<td>Mapped Australian educational research using Australian Education Index (AEI)</td>
<td>TE requires engagement of researchers and educators</td>
</tr>
<tr>
<td>Backtracking Practices and Policies to Research</td>
<td>RTP</td>
<td>Researchers and educators</td>
<td>Appraised the influence of research on educators</td>
<td>Marketing research knowledge</td>
</tr>
<tr>
<td>Study Title</td>
<td>Type</td>
<td>Methodology</td>
<td>Description</td>
<td>Findings/Implications</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Teacher Knowledge in Action</td>
<td>RTP</td>
<td>Teachers</td>
<td>Analysed teachers’ explanations of the decisions they made during a videoed lesson</td>
<td>Shift in what is valued in university work</td>
</tr>
<tr>
<td>Education Research in Australia</td>
<td>RTP</td>
<td>Institute of Scientific Information (ISI) database</td>
<td>Assesses the international visibility of Australian educational research</td>
<td>Good attitudes and exposure to practical research</td>
</tr>
<tr>
<td>The Selby Smith report (1999)</td>
<td>RTP</td>
<td>Review of literature and multiple data sources</td>
<td>Adds the policy formulation perspective in relation to vocational education and training</td>
<td>Modest influence of research on policymakers</td>
</tr>
<tr>
<td>Gersten, Morvant, &amp; Brengelman (1995)</td>
<td>PD</td>
<td>12 classroom teachers from a large inner city elementary school</td>
<td>Coaching in reading for students with learning disabilities</td>
<td>Collaborative processes and decision-making are essential</td>
</tr>
<tr>
<td>Little &amp; Houston (2003)</td>
<td>PD</td>
<td>Conceptual PD framework by Florida’s DET and the University of Central Florida</td>
<td>4-step model promoting scientifically based practices</td>
<td>Relevance to classrooms, support, collaboration of researchers and educators</td>
</tr>
<tr>
<td>Gravani (2008)</td>
<td>PD</td>
<td>22 teachers and 12 tutors</td>
<td>Case study of experiences of a university led in-service training course</td>
<td>Importance of joint partnerships between universities and schools</td>
</tr>
<tr>
<td>Vaughn, Hughes, Klingner, &amp; Schumm (1998)</td>
<td>PD</td>
<td>7 general education and 5 special education teachers</td>
<td>A PD reading program to enhance the usability of research</td>
<td>Collaboration and balance between responsibilities between researchers and teachers.</td>
</tr>
<tr>
<td>Klingner, Vaughn, Hughes, &amp; Arguelles (1999)</td>
<td>PD</td>
<td>Follow-up study involving 7 teachers</td>
<td>Examined teachers’ implementation, modification and</td>
<td>Responding to classroom contexts and organisational demands</td>
</tr>
<tr>
<td>Author(s) and Year</td>
<td>Type</td>
<td>Participants/Setting</td>
<td>Summary</td>
<td></td>
</tr>
<tr>
<td>----------------------------</td>
<td>------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Klingner, Ahwee, Pilonieta, &amp; Menendez (2003)</td>
<td>PD</td>
<td>29 teachers from 6 elementary schools</td>
<td>Investigated reading practices amongst teachers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Challenges of scaling of research-based practices identified</td>
<td></td>
</tr>
<tr>
<td>Gunstone &amp; Northfield (1993)</td>
<td>PD</td>
<td>21 high school science teachers from 4 schools</td>
<td>Examining the intertwining between research and practice</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ongoing PD and its need to be viewed as credible</td>
<td></td>
</tr>
<tr>
<td>Sparks &amp; Richardson (1997)</td>
<td>PD</td>
<td>Analysis of 11 national reports and resolutions</td>
<td>Examines effective staff development and student learning</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PD is complex and dependent of clear plans and common goals</td>
<td></td>
</tr>
<tr>
<td>Darling-Hammond (2000)</td>
<td>TE</td>
<td>Surveys, case study and the National Assessment of Educational Progress</td>
<td>Examined data to determine ways TE and other school factors related to student achievement</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Increased teacher’s abilities and interests in research increases student achievement</td>
<td></td>
</tr>
<tr>
<td>Miller, George, &amp; Fogt (2005)</td>
<td>TE</td>
<td>Case study of Centennial School</td>
<td>Rigorous onsite TE program using a teaming approach</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Well articulated rationale, leadership, staff commitment and resources</td>
<td></td>
</tr>
<tr>
<td>Winn &amp; Zundans (2004)</td>
<td>TE</td>
<td>40 preservice teachers and 20 primary students</td>
<td>Literacy development program for children at risk</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Collaboration between the schools and universities</td>
<td></td>
</tr>
<tr>
<td>Golder, Norwich, &amp; Bayliss (2005)</td>
<td>TE</td>
<td>223 postgraduate students and 296 tutors</td>
<td>An initiative to enhance differentiating instruction</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Web-based resources supported teaching partnerships</td>
<td></td>
</tr>
<tr>
<td>Hurley, Chamberlain, Slavin, &amp; Madden (2001)</td>
<td>CSR</td>
<td>11 schools from Texas</td>
<td>Comparison of state reading measures across grades 3-5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Consistent commitment from all teachers and leadership</td>
<td></td>
</tr>
<tr>
<td>Madden et al., (1993); Ross</td>
<td>CSR</td>
<td>6000 students in control</td>
<td>Comparison of student</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Increased results in research-</td>
<td></td>
</tr>
</tbody>
</table>
et al., (1995); Ross et al., (1997)

Group/ 6000 in Success For All (SFA) group from Baltimore, Philadelphia, Memphis, Tucson, Ft. Wayne (IN), and Modesto (CA)

Results from high-poverty schools within eleven school districts with and without implementation of SFA

Borman, Hewes, Overman, and Brown’s (2002) CSR

Meta analysis of 232 studies

Achievement effects of "whole-school" or "comprehensive" reforms

Ongoing staff PD

75% staff approval rate

Reproducible student assessments

Mac Iver, Kemper and Stringfield (2003) CSR

Two cohorts of students (in kinder or grade 2 during 1996-97)

4-year study examining the implementation of the Baltimore Curriculum Project (BCP) in six Baltimore City public schools

Regularly identify student progress

Continuous program structure and logical progression

Bain and Hess (2000) CSR

Study occurred from 1993-1997 with an RSM Interview Form administered on three occasions resulting in a total of 141 responses

Longitudinal effect of a comprehensive school design and reform program on faculty perceptions

Collaborative approach to problem solving and instructional decision making

Bain (2007) CSR

Brewster Academy, 350 grade 9-13 students

Longitudinal Self Organizing School (SOS) case study

Nine targets representing critical areas of need and potential goals of next generation CSR design

Pratt, Hall, Hord & Thurder CBAM

Staff at Jefferson County, Case study of the

All stakeholders should have
<table>
<thead>
<tr>
<th>Year</th>
<th>Methodology</th>
<th>Title</th>
<th>Study Details</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>CBAM</td>
<td>Rutherford (1982)</td>
<td>Multiple case study of 5 principals from different settings</td>
<td>Comparison of facilitator role and concerns about the change process. Top down approach may be detrimental to the transition of research to practice.</td>
</tr>
<tr>
<td>1987</td>
<td>CBAM</td>
<td>Huberman and Miles (1987)</td>
<td>146 school districts with case studies from 12 sites</td>
<td>Implementation framework to identify phases of innovation to analyse the feelings and concerns of teachers. To implement change stakeholders must change first. Their needs, feelings and perceptions must be addressed prior to addressing program-orientated concerns.</td>
</tr>
<tr>
<td>2010</td>
<td>CBAM</td>
<td>Davidson (2010)</td>
<td>8 junior high resource special education teachers</td>
<td>Changing teachers concerns toward inclusion using PD. Need for communities of practice to work within environments that promote inclusion.</td>
</tr>
<tr>
<td></td>
<td>RTP</td>
<td>Lloyd, Weintraub, &amp; Safer</td>
<td>Research</td>
<td>Practical and responsive to...</td>
</tr>
<tr>
<td>Source</td>
<td>Type</td>
<td>Category</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------</td>
<td>------------</td>
<td>--------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Slavin (2004)</td>
<td>RTP</td>
<td>Research</td>
<td>Evidence based</td>
<td></td>
</tr>
<tr>
<td>Guba (1967)</td>
<td>RTP</td>
<td>Research</td>
<td>Educational change</td>
<td></td>
</tr>
<tr>
<td>Eash (1968)</td>
<td>RTP</td>
<td>Research</td>
<td>Many concerns exist</td>
<td></td>
</tr>
<tr>
<td>Coleman (1979)</td>
<td>RTP</td>
<td>Research</td>
<td>Field based training</td>
<td></td>
</tr>
<tr>
<td>Schneider &amp; Mc Donald (2006)</td>
<td>RTP/PD</td>
<td>Resource support</td>
<td>Long-term with adequate materials</td>
<td></td>
</tr>
<tr>
<td>Ysseldyke (1989)</td>
<td>RTP/PD</td>
<td>Collaboration</td>
<td>Joint partnerships between researchers and practitioners</td>
<td></td>
</tr>
<tr>
<td>Billups (1997)</td>
<td>PD</td>
<td>Support</td>
<td>Consistent</td>
<td></td>
</tr>
<tr>
<td>McLeskey &amp; Billingsley (2008)</td>
<td>PD</td>
<td>Support</td>
<td>Comprehensive and sustained</td>
<td></td>
</tr>
<tr>
<td>Malouf &amp; Schiller (1995)</td>
<td>TE</td>
<td>Collaboration</td>
<td>Active stakeholder involvement</td>
<td></td>
</tr>
<tr>
<td>Grimes &amp; Tilly (1996)</td>
<td>TE</td>
<td>Collaboration</td>
<td>Practitioner involvement required in research</td>
<td></td>
</tr>
<tr>
<td>Goodlad (1993)</td>
<td>TE</td>
<td>Collaboration</td>
<td>Mutually aligned norms, expectations and roles</td>
<td></td>
</tr>
<tr>
<td>El-Dinary, Pressley, Coy-Ogan, &amp; Schuder (1994)</td>
<td>TE</td>
<td>Support</td>
<td>Support of personnel qualities and attributes</td>
<td></td>
</tr>
<tr>
<td>Tyack &amp; Cuban (1995)</td>
<td>CSR</td>
<td>Change</td>
<td>Inadequate comprehension of time, effort and resources. Lack of PD and insight</td>
<td></td>
</tr>
<tr>
<td>Slavin (2004)</td>
<td>CSR</td>
<td>Implementation considerations</td>
<td>Strong teacher “buy in” with visions of goals</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rapid roll out of program elements</td>
<td></td>
</tr>
<tr>
<td>Authors/Year</td>
<td>Framework</td>
<td>Evidence/Discussion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-----------</td>
<td>---------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waldron &amp; McLeskey (2010)</td>
<td>CSR</td>
<td>Inclusion and school reform Critical role of collaboration and distributive leadership in “reculturing” a school. Multiple solutions to complex problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hord, Rutherford, Huling-Austin &amp; Hall (1987)</td>
<td>CBAM</td>
<td>Group seven stages of CBAM into three main stages Concerns for self, impact and task orientation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horsley &amp; Loucks-Horsley (1998)</td>
<td>CBAM</td>
<td>Clarifies CBAM framework Programs are examples of the content of change. Parallel between an individuals natural and developmental process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rutherford (1986)</td>
<td>CBAM</td>
<td>Teachers’ contributions to school improvement Teachers believe their future in relation to the innovation is determined by a superior</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Each of the studies was read and categorised according to the project details, participants and the RTP factor identified. Commentary claims identified through this investigation are evident within the narrative and consistencies in RTP assertions are presented in Table 1. In brief, the literature search identified 32 studies that identified RTP factors. Of these studies 23 were conducted in the United States (US), seven in Australia and one in both Greece and the United Kingdom. The Australian DETYA (2000) research evaluation program accounted for five studies, which are presented in Table 1. Half of the studies reviewed were undertaken in schools with the results described and presented in five sections: (1) RTP factors and themes identified through research-to-practice commentary claims and related research into practice examples, (2) RTP factors and themes identified through the PD literature, (3) RTP factors and themes identified through the TE literature, (4) RTP factors and themes identified through the CSR literature and (5) RTP factors and themes identified through the CBAM literature.

2.4.1. Research into Practice

Commentary claims or position papers featured predominantly in the RTP search. Of the 29 RTP references, 19 represented commentary claims or position papers while 10 presented RTP intervention research. Claims about RTP were generally based on indirect evidence. The primary focus of the intervention research was in the area of reading. There were no empirical research examples with a longitudinal, intervention-oriented focus on research to practice.
1.1.1.1. 2.4.1.1 Research-to-Practice Commentary Claims and Assertions

Carnine (1997) claimed the ‘research-to-practice’ gap exists because research has not been designed to make a practical difference. He identified three factors or characteristics that influence RTP efforts. These were usability, accessibility and trustworthiness of research. Usability was described as the practicality of use. Accessibility referred to the extent to which programs were available to those who want to use them. Trustworthiness reflected the confidence and belief practitioners had in research findings. Carnine’s themes of usability and accessibility built on early claims made by Guba (1967), Eash (1968) and Coleman (1979) who identified concerns related to transferring research to practice. Concerns that influenced the aforementioned factors included: inadequate links between universities and schools, inadequate training, and lack of use by practitioners. Toch (1982) concluded that the failure of researchers and educators to cooperate contributed to their lack of communication, which impacted negatively on the research in schools. Carnine (1997) later presented that cooperation and communication are essential to the identified notion of trustworthiness.

Ways to enhance consistency and support for teachers in their efforts to translate research to practice were identified by Gunstone and Northfield (1986). Suggestions included ensuring the grounding of research questions in practice with a focus on efficient and manageable interventions, collaborating with practitioners to establish feasibility, broadening the context for successful research-based demonstrations, and promoting school-based research (Carnine, 1997). These solutions were supported by Lloyd et al. (1997) supported these solutions by
emphasising that research should be responsive to practicing professionals’ needs in order to effectively address the diverse needs of their students.

In order to address the usability, accessibility and trustworthiness of research, Billups et al. (1997) proposed that information regarding the research base should be included in school programs. It was suggested that this information should include who did the study, how it was conducted, in what setting, length of time, and evidence of its track record. Carnine (1997), Billups et al. (1997) and Lloyd et al. (1997) proposed that relevant information should be disseminated in a user-friendly format so teachers can fully understand the implications and the extent of usefulness. Further, Sydoriak and Fields (1997) advocated for joint involvement and ownership between researchers and practitioners to increase the likelihood of research reaching classrooms in ways that are more reflective of ‘real world’ conditions.

According to Ysseldyke (1989) researcher training needs to be improved for the translation of RTP to occur. Gersten, Vaughn, Deshler, and Schiller (1997) expanded on this suggestion by proposing that alternative researcher roles, including collaborators, facilitators and coaches, may reduce the gap between special education research and classroom practice, thus making classrooms more inclusive. Such an approach to enhancing collaborative links between researchers and practitioners may contribute to enhancing Carnine’s (1997) notion of usability, as research is promoted as proactive rather than reactive (Ysseldyke, 1989).

Slavin (2004) proposed that educational reform needs a well-designed comprehensive approach to school-wide practice that is based on the best research available. As such, attending to details such as professional development, evaluation and comprehensive design are important. The integration of instruction, assessment
and classroom management into a school-wide reform plan to meet the diverse needs of students is needed to ensure accessibility.

Consistencies in suggestions on ways to make research useable, accessible and trustworthy are highlighted in Table 1. Carnine (1997) and Sydoriak and Fields (1997) summarised these factors in their six principles: (1) importance of practicality, concreteness and specificity of research-based practices; (2) scope and magnitude of intended change should not be too broad or too vague; (3) linking research ideas to classroom situations with opportunities to experiment with feedback; (4) collaboration and joint problem solving between researchers and practitioners, ensuring links to real life situations; (5) frequent and substantive interaction to give teachers the opportunity to discuss new practices; and (6) relating research applications to improvements in learning for all students. Collectively, these principles propose the promotion of sustained use of research, summarising concerns presented over the last four decades. Further, Sydoriak and Fields (1997) advocated for joint involvement and ownership between researchers and practitioners to increase the likelihood of research reaching classrooms in ways that are more reflective of ‘real world’ conditions.

In summary, the RTP commentary claims support the need for strong collaborative links between educators and researchers. Through working together researchers and practitioners may build joint interest and ownership of research-based practices. Consistent professional development efforts have been cited as a way to support teachers’ access to research based practices. Concerns about the trustworthiness and
usability of research have also been presented. The following section identifies research on interventions that have yielded some RTP knowledge.

1.1.1.2. Related RTP intervention research

This section builds on commentary claims and presents the small number of related research examples that identify factors that are claimed to reduce the RTP gap by striving to make research useable, accessible and trustworthy. The work by Fuchs and Fuchs (1998, 2001), Vaughn, Klingner, & Bryant (2001), Foegen et al. (2001) and Foorman and Moats (2004) expanded on the importance of the trustworthiness of research by promoting supportive partnerships and environments.

Foorman and Moats (2004) presented a PD approach that emerged out of their research in Houston and Washington, DC. This study was conducted in the Houston and involved 1400 children from 17 high-poverty, low-performing schools in Houston and Columbia. Conditions under which these children from Kinder to Grade 4 learn to read were examined. The data collection procedures were the same in both cities and involved frequent visits to the classrooms by observers, professional development staff, assessment personal and project faculty. All teachers used a comprehensive reading program with implementation supported by the publisher’s consultants. By the end of the 4-year project, students in both cities were solidly at national averages in their reading scores. Although the achievement results were positive, contextual variables differed in locations. The extent of PD differed. In Columbia PD was multidimensional, whilst due to limited funds Houston’s PD consisted of 4 days across the school year. On analysis of this reading intervention study Foorman and Moats (2004) concluded that an obstacle to moving sustainable
research practices to scale include the slowness of teacher education and PD efforts. Positive factors include the sound research-based practices available and an awareness of the need for increased knowledge of how to bring research to scale. Other critical elements identified as contributors to sustaining and scaling research-based practices through this investigation include mutual respect, pride in academic achievement and collegiality in interactions.

Fuchs and Fuchs (2001) described how researchers and educators could work together more productively to produce methods that schools can continue to employ once the researchers work is complete. This follows Fuchs and Fuchs’s (1998) description of efforts linking researchers and educators in Metro Nashville PHASES Public Schools. The Nashville study sought to identify principles for sustaining research-based practices through a school-wide study utilising Math Peer Assisted Learning Strategies (PALS). This study involved seven teachers across different schools. The authors claim that this model differs from traditional research due to the level of teacher involvement.

The model relies on ongoing collaboration between university researchers and school building level educators and has three phases. The first phase involves implementing a pilot process where teachers reflect on their concerns and work with researchers to implement an innovation. Formal testing of the innovation occurs during the second phase, with schools, districts and state departments providing support to scale up the innovation in the third and final phase. This research example united educators and researchers as partners in planning, implementing, providing feedback and problem solving. They found that these partnerships only survived when both sides worked continuously to preserve them. It should be noted that
during this research many challenges arose, such as the state adopting high-stakes achievement tests, which increased anxiety levels, making partnerships more susceptible to mistrust.

Fuchs and Fuchs’ (2001) discussion made reference to this PALS investigation and indicated that inadequate demand for validated practices represented a major reason for their lack of use. The use of only one research-based intervention may be viewed as a limitation, yet this investigation reinforced the importance of shared responsibility. Foegan et al.’s (2001) study, which examined preservice teacher beliefs on curriculum-based measurement utility and validity, added to the shared responsibility factor. They presented the need for researchers to better disseminate their research and for practitioners to more actively review the research. Researchers alone are said to be incapable of bridging the research-to-practice gap. In sum, these studies have indicated that commitment and collaboration between researchers and educators at planning, implementation and sustainment phases of research-based interventions is beneficial in promoting RTP efforts. Collectively they have suggested that to increase the demand for research, researchers must work with educators to produce innovations that are validated and PD efforts need to ensure meaningful dissemination of research findings.

Collegiality, mutual respect, time, resources, comprehensiveness, emergent feedback, implementation integrity, long-term support, pride in achievement, communication, shared responsibility, and positive student and peer responses were factors identified to enhance supportive environments to promote the usability, accessibility and trustworthiness of research (Bain, 2007; Fuchs & Fuchs, 2001; Klingner, Ahwee, Pilonieta, & Menendez, 2003; Schneider & McDonald, 2006;
Vaughn, Klingner, & Hughes, 2000). Further, Foegen et al.’s (2001) work with preservice teachers advocated that better dissemination of research and practitioner review was required. Fuchs and Fuchs (2001) similarly found that partnerships only survived when both sides worked continuously to preserve them.

Examples of professional development (PD) built on themes of accessibility, trustworthiness and usability (Foorman & Moats, 2004). Obstacles to moving sustainable research practices to scale include the slowness of TE and PD efforts. Other factors identified as contributors to sustaining and scaling research-based practices included the availability of sound research-based practices, and an awareness of the need for increased knowledge of how to bring research to scale (usability). Mutual respect between professional development staff and teachers, student and teacher pride in academic achievement, and collegiality in interactions among stakeholders were identified as features that can enhance trustworthiness and narrow the RTP gap through addressing diverse student needs.

In 1998 the Department of Education, Training and Youth Affairs (DETYA) conducted a study with the Australian Research Council (ARC) that provided additional support for the many factors identified through RTP commentary claims. The study sought to explore the impact of Australian educational research, with particular respect to schools. The Research Evaluation Programme, managed by the DETYA, identified five studies that presented different perspectives on the impact of educational research in Australia and offered a broad insight into the influence of Australian educational research. The first study Mapping Educational Research and its Impact on Australian Schools is a comprehensive charting of Australian educational research and identifies the published Australian educational research
undertaken during 1992–1997. *Backtracking Practices and Policies to Research* appraised the influence of research on educators and *Teacher Knowledge in Action* analysed teachers’ explanations of their decisions during a videoed lesson. Both groups mapped backwards from the practitioner through the network of influences to identify the impact of research on practice. *Education Research in Australia: A Bibliometric Analysis* assessed the international visibility of Australian educational research through lists of citations and inclusions in journals found in the Institute of Scientific Information (ISI) database. The Selby Smith report (1999), *The Relationships Between Research and Decision-Making in Education: An Empirical Investigation*, (as cited in DETYA, 2000) adds the policy formulation perspective in relation to vocational education and training (VET). Collectively, this research confirms that quality teacher education needs to develop good attitudes to research along with exposing educators to research-based knowledge that will assist them in catering for the needs of individual students. For research to be applied in an education context, researchers have to market their knowledge so that it is accessible and motivating. This requires a shift in what is valued in the work of universities (DETYA, 2000).

Results of these studies supported the need for the engagement between researcher and educator in the creation of ‘new knowledge’ and ‘new solutions’, adding that this interactive process must be multilayered (Carnine, 1997; DETYA, 2000; Sydoriak & Fields, 1997). DETYA (2000) refers to the inadequacies of conceived linear relationship between educational research and practice, and suggest a multilayered process of engagement between researcher and educator that is responsive and effective at all levels. Multi layering identified educators’ problems
need to be addressed in context, with the acknowledgment of individual attitudes, beliefs and organisational structures that provide opportunities for feedback and communication with realistic expectations. The studies also expanded upon the understanding of the accessibility of research suggesting the need for clear, unambiguous language that is meaningful to educators. The importance of teacher education was emphasised, and the need for developing educators who value and use research to support change (Ax et al., 2008; Gravani, 2008; McLeskey & Billingsley, 2008).

To summarise the RTP commentary claims and related RTP research identify four common themes. The first theme calls for research to be responsive to the needs of educators and their settings. This theme has been identified through sub themes suggesting that research should be relevant, useable, trustworthy and accessible. Research should be evidence based, practical and manageable to ensure its transference to direct practical applications. The second theme identifies the need for effective professional development to actively involve teachers in reviewing research to gain a sound knowledge of research based practices. Suggestions that PD needs to be consistent and address to practitioner needs is said to encourage practitioners’ valuing of research findings.

The third theme entitled collaboration refers to the need for shared understanding, ownership, responsibility, collegiality and mutual respect. Collaborative efforts require effective cooperation and communication between all stakeholders. This approach may encourage frequent and substantive interaction catering for increased opportunities for feedback and discussion. The final theme pertains to resource
supports. This falls from claims identifying the need for consistency in support (including time and resources) for all stakeholders. As RTP efforts are recognized as a process not a product, long-term support for projects that elicit positive attitudes from peers and students is required.

In conclusion, research that has attempted to identify the success or concerns of educational interventions has provided examples of ways in which researchers and practitioners can work toward making research usable, accessible and trustworthy. Through analysing the intervention research it became apparent that while immediate application appears to be a high priority for practitioners, shared theoretical understandings are essential for educators and researchers to be able to work together (DETYA, 2000).

The following section builds on this RTP knowledge and describes the role of professional development as a factor that can assist educators in creating successful educational experiences for all students (Billups et al., 1997; Foorman & Moats, 2004; Gunstone & Northfield, 1986; Klingner et al., 2003; Little & Houston, 2003).

1.1.1.3. 2.4.1.3. Professional Development and RTP

The second round of review was conducted based upon the factors identified in the RTP literature. This was done to go further in identifying RTP knowledge that may be gained from related research. A brief description of PD is presented which is followed by the introduction of the articles that met the RTP and PD selection criteria for this review. Eight publications were identified that specifically presented
a detailed discussion of PD as a comprehensive or longitudinal approach to address the RTP gap in education. An article on coaching located in the TE search is also presented in this section as it pertained to a PD intervention. Articles that made reference to PD in fields other than education and did not refer to the RTP gap were not selected for this review.

Fullen (2000) described PD as a continuous process, supported through mentoring, coaching, and feedback to address the perceived needs of the students within individual classrooms and schools. It may be further defined as a complex and comprehensive process of change dependent on clearly articulated plans to address common goals (Fullan, 1993; Fullan & Hargreaves, 1992; Sparks & Richardson, 1997).

McLeskey and Billingsley (2008) described the importance of PD in relation to RTP efforts and special education. Support for concerns of accessibility, usability, trustworthiness of research and the possible reasons for and solutions to the RTP gap in the area of PD were stated. They proposed the two most influential RTP gap factors are teacher preparation and the nature of research conducted. McLeskey and Billingsley (2008) concentrated predominantly on issues related to the shortage of special education teachers, yet they promoted the need for comprehensive, coordinated, and sustained efforts in the area of teacher education to reduce the RTP gap.

A reconceptualised PD model involving a four-step process to promote quality and the use of scientifically based instructional practices was described by Little and Houston (2003). The occurrence of educational learning or change was identified as
occurring when critical factors, including relevance to classroom needs, dependence on required support, collaboration of researchers and multiple educators within schools that can provide expert content knowledge, are met. This work increased awareness of factors that can reduce the RTP gap by promoting the quality of PD efforts through the use of scientifically based instructional practices. The model introduced required collaboration among professionals within the research community, the state department of education, local staff developers, administrators, and teachers. It was developed by Florida’s State Department of Education and the University of Central Florida through the Effective Instructional Practices (EIP) project in an attempt to bring research into practice. From the outset, the model was based on principles of educational change and adult learning theories. It involved a four-step process including the;

1. Identification of scientifically based instructional practices, in which specific criteria were developed as a standard to determine the efficacy of each scientifically based instructional practice in relation to access to the general education curriculum.

2. Selection of teams of teachers to attend awareness-level professional development, in which set criteria had to be met before the nominated applicants were accepted for attendance at the professional development institute. Teams generally consisted of a content-area teacher and a special educator.

3. Classroom implementation of scientifically based instructional practice from initial training to quality implementation for all students, in which mentors and
coaches modelled and guided the participants through learning the content and
discussing its application within their classrooms.

4. Data collection of the results of student learning through traditional and action
research methodologies.

Implications of this research-into-practice model of professional development
indicated that educational learning or change could occur when critical factors are
evident. These factors include the relevance of issues to the classroom needs and the
dependence on required support. A limitation of this study is that it did not test
whether the transfer of RTP actually occurred. Calls for scientifically based
instructional practices that are directly related to student needs were identified. The
collaboration of multiple educators within schools and agencies and researchers was
again viewed as a high priority.

Gersten, Morvant, and Brengelman (1995) conducted an intensive coaching
process to support general education teachers’ adoption of research-based practices
selected to improve reading performance of low-achieving students was studied. Key
issues included the anxieties inherent to, and the variations in concerns and priorities,
of general and special educators. As such, general and special educators’ varied
perceptions emerged as a key issue in ways to bring research-based teaching into
general education classrooms to cater for the needs of students with and without
disabilities. Collaboration, including the use of collaborative decision-making teams
across the school and the adoption of collaborative meeting process in all committees
and groups, may rectify this issue.
Joint partnerships with mutual boundaries between universities and schools are deemed important (Gravani, 2008). Gravani (2008) reported that the cultural clash between researchers and teachers could be addressed through mutually identifying boundaries, structures and purpose. Gravani’s (2007) qualitative case study with university teachers and secondary teachers’ in Greece, collected data on their experiences and perceptions of a university led in-service training course. The research explored aspects of the relationships between academics and practitioners in the context of a professional development program. A total of 22 secondary teachers and 12 tutors interviewed over a two-month period (May-June, 2001) reported on theory and practice, knowledge held, used and valued and the extent to which these features influenced their learning during the course of the program. Data collection consisted of transcripts of audio-recorded semi structured interviews. Three major themes emerged from the analysis of these results. These themes included theory versus practice, in which academics suggested theory was the core of in service training whilst practitioners acknowledge practice as being the centrepiece of in-service training. The second theme identified propositional versus procedural knowledge, where the complimentary nature of propositional and practical knowledge is presented. Knowledge producers versus knowledge translators is the final theme, it identified that traditional roles need to move into an increased collaborative state so that the power and responsibility is shared.

Gravani’s (2007) claim that this research is “fundamentally optimistic in that it does not indicate, however imperfectly, that rather than focussing on the gap, the discussion should be about the space” (Gravani, 2007, p. 657) refers to importance
of joint partnerships between universities and schools. The academic–teacher relationship continued to be one of the most important areas upon which future professional learning should be based.

Gunstone and Northfield’s (1993) case study on a preservice program for high school science teachers at Monash University was referred to as representing the author’s translation of research to practice. The program identified student teaching as the first phase of career-long professional development. The Monash Program was comprised of two foundation subjects, Social Foundations of school (SFS) and Teaching and learning (TAL). Two methods of teaching subjects were involved. These included teaching practice with supervising teachers and a number of short service courses including educational technology and first aid. The authors prepared science teachers by integrating all components into a “single whole” focussing on the development of the student teacher. A major element in this approach was the use of constant seminar groups across all integrated subjects rather than lecture-based teaching. The authors identified the context as tangled and details are limited, yet they do promote the notion of the reflective practitioner and identify the benefits of maximizing student teachers’ contacts with school pupils and teachers. Although this article does not describe the methodology in detail including the way data was collected, the research to practice issues identified include the importance of ongoing PD and the need for it to be seen as credible by teachers.

Seven general education teachers and five special education teachers (secondary participants) undertook a yearlong intensive PD reading program (Vaughn, Hughes, Klingner & Schumm, 1998). Teachers were taught four writing and reading practices
in separate nine-week blocks. The program was designed to capitalize on key elements of effective PD through the involvement of teacher researchers. These elements included involving teachers who were willing to learn only four successful research based instructional practices, the provision of ongoing coaching and support with bimonthly meetings to discuss concerns. Data was collected through teacher interviews, implementation validity checklists, barriers and facilitator checklists, focus group interviews, researcher logs and classroom observations. Results indicated that sustained implementation was maintained by four of the seven general education teachers for the year. Three of the seven continued to display high implementation into the following year. The reading intervention promoted PD as a way of enhancing accessibility and usability of research by engaging teachers in pursuit of genuine questions. It identified that RTP efforts can be enhanced by establishing a collaborative link between researchers and teachers to build trustworthiness and balance their differing agendas, roles and responsibilities.

A follow-up investigation (Klingner, Vaughn, Hughes & Arguelles, 1999) examined the extent to which seven of these teachers continued to use instructional practices they had originally learned. Six of the seven had continued to use one or more of the practices. A year later, Klingner et al. (2001) investigated the extent to which these practices had spread amongst teachers who were not part of the original PD. Findings indicated that for programs designed to meet the needs of a range of students, teachers were more likely to maintain a practice if peers perceive the practice is valuable, and a support network is in place that allows for discussion around implementation issues.
Klingner et al. (2003) extended PD research efforts implementing four reading research-based practices with 29 teachers from six elementary schools. The most frequently cited barriers included a lack of sufficient instructional time, too many competing demands on time, and a lack of materials. Off-task students, interruptions, insufficient administrative support and classroom management challenges also made scaling efforts difficult. Factors that assisted the implementation-included students enjoying the strategies, students performing well during implementation, administrative support, teachers feeling sufficiently prepared, materials being provided and ongoing support from the research team.

A key factor derived from Klingner et al. (2003) is that for research-based practices to be sustained and scaled in general education classrooms that include children with special needs, there must be ‘buy in’ from stakeholders at multiple levels and teachers must take ownership of the practices. The need for collaboration between researchers and teachers continued to be emphasised with a greater awareness of the considerable time required to balance the many roles and responsibilities essential to achieving the delicate balance between practice and research. This reading intervention research supports the claims that top down support for a bottom up model is required in bringing research efforts to scale (Darling- Hammond & McLaughlin, 1995).

On analysis of the PD literature related to RTP, 4 major themes were identified. The first theme, collaboration once again promotes the importance of joint partnerships and shared ownership between academics and practitioners. The PD literature builds on the initial notion of collaboration by identifying the need for mutually identified boundaries, structures and purposes (Foorman & Moats, 2004; Klingner, et al.,
“Buy in” from all stakeholders is said to strengthen the collaboration of multiple agendas within school and academic communities. Researchers propose that the most promising forms of Professional Development engage teachers in the pursuit of genuine questions, problems and solutions. This assertion leads into the second theme, which once again suggests that research should be responsive. Although much of the PD knowledge has been gained through reading interventions, these references identify that the RTP gap may be reduced if research pursues genuine teacher needs and concerns. Claims that research needs to be relevant to classroom contexts so that programs directly relate to student needs are presented. The third theme suggests the need for scientifically based instructional practices. Calls for PD efforts to be based on instructional practices that have been proven to be effective are evident. PD should be sustained, coordinated, comprehensive and seen as credible by teachers so they feel sufficiently prepared. This calls for the use of scientifically based instructional practices that respond to claims that teachers’ intellectual and leadership capacity need to be catered for as they are central to students learning.

Support in a PD context suggests the need for a support network that allows for discussion of new practices and their implementation between practitioners and academics. The provision of adequate resources, sufficient instructional time and ongoing support from all stakeholders is cited as critical to effective PD efforts. These assertions echo those identified in the RTP literature. Limiting competing demands extends the notion of support in a PD context. If PD is to be effective the
demands placed on teachers must be manageable and realistic. Support in creating a manageable balance of multiple agendas is necessary.

These assertions echoed and expanded upon those identified in the RTP literature and suggested a need to limit competing demands in PD planning. If PD is to be effective, the demands placed on teachers must be manageable and realistic. Support in creating this manageable balance of multiple agendas is necessary for consistent PD efforts to address the needs of staff in their ability to cater for the needs of students with a diverse range of abilities. These PD factors are consistent with previous RTP assertions and build on the knowledge required by researchers and practitioners on ways to reduce the RTP gap. Factors within the identified PD themes are specifically identified in Table 2.3.

The following section expands upon those factors identified in the PD literature and describes teacher education as a way to influence research-to-practice efforts (Everington & Hamill, 1996; Golder, Norwich, & Bayliss, 2005; Villa & Thousand, 1996). Research examples that confirm and expand upon RTP and PD assertions are presented.

1.1.1.4. 2.4.1.4 Teacher Education and RTP

Teacher education (TE) in an inclusive education context is identified in both research and position papers as a key strategy in bridging the RTP gap, furthering the capacity to collaboratively link university and school efforts (Capizzi & Fuchs, 2005; Darling-Hammond & Baratz-Snowden, 2007; D. Fuchs & L. Fuchs, 1998; Golder et al., 2005; Gravani, 2008; Korthagen, 2004; Winn & Zundans, 2004). TE can assist in reducing the RTP gap as it represents an avenue linking the efforts of researchers and
educators who work in inclusive environments to enhance RTP endeavours (Everington & Hamill, 1996; Golder, Norwich, & Bayliss, 2005; Villa & Thousand, 1996). Concerns about the difficulty in maintaining a collaborative link between university and school partnerships have been raised (Sirotnik as cited in Goodlad, 1993). These concerns are based on the differing norms, roles and expectations of researchers and practitioners and are referred to as a ‘cultural clash’ between universities and schools. Yet the potential responsiveness of university education programs in ensuring the practical preparation of teachers continue to be presented as a way to enhance united RTP efforts (Billups, 1997; Miretzky 2007; Carnine 1997; Richardson, Anders, Tidwell, & Lloyd, 1991; Lipsky & Gartner, 1996; Miller, George et al. 2005). Some researchers suggest that teacher education programs bear a heightened responsibility in addressing the long standing concern that evidence-based knowledge is not being used to its full potential in school settings (Devine & King, 2006; Golder, et al., 2005; Schmidt, Rozendal, & Greenman, 2002; Volonino & Zigmond, 2007).

According to Zundans (2007) teacher education programs have received much international criticism (Bereiter, 2002; Cochran-Smith, 2001; Edwards et al., 2002; Korthagen, 2001; Russell et al., 2001; Vavrus, 2001; What matters, 1996). These issues relate to the lack of collaboration and relevance, course and content cohesion and delivery and lack of transference of knowledge into practical settings. They are common themes and concerns that are raised in RTP assertions and research. They interfere with the capacity of teacher preparation programs to address the theory into practice issues relating to the challenges associated with inclusion (Bates, 2002; Gore et al., 2004; Cochran-Smith, 2001; Edwards et al.,
Yet the need for university and school educators to engage collaboratively was promoted as involving teachers in the research process encouraged deeper comprehension and ownership of research efforts (Darling-Hammond, 1994; Gravani, 2008; Winn and Zundans, 2004). A third round of review that built on factors identified in PD research and identified issues that link TE and RTP assertions was conducted. TE literature indicated that while RTP remained a concern, it was not treated in depth in many discussions (Carnine, 1997; Darling-Hammond, 2006; Darling-Hammond, 2011; D. Fuchs & L. Fuchs, 1998; Gravani, 2008; Korthagen, 2007). Of the 12 TE research-based references located only four offered a specific focus on TE as a way to address the RTP gap.

Darling-Hammond (2000) used an extensive dataset to examine ways in which teacher education and other school factors related to student achievement. This dataset included a 50-state survey of policies, state case study analyses, the 1993-94 Schools and Staffing Surveys (SASS), and the National Assessment of Educational Progress (NAEP). Quantitative analyses indicated that measures of teacher preparation strongly correlate to student achievement in reading and mathematics. Results suggested that policies adopted by states regarding teacher education, licensing, hiring, and professional development may make a difference to the capacities that teachers bring to their work. This work gives indirect support to the importance of TE in addressing RTP as teacher preparation has been shown to differentially affect teacher capacity and ultimately student achievement.
Miller, George, and Fogt (2005) raised awareness of the impact of modifications to a school’s organisational structure using a teaming approach. This descriptive case study was conducted at Centennial School of Lehigh University, an alternative day school for students with emotional and behavioural disorders and a teacher training facility. Centennial School comprises of 80-100 students and provides educational services to children with a disability. Graduate students work full time as teachers at the school and complete course work in the evenings. A rigorous onsite professional development program supplements students’ coursework.

Miller, George, and Fogt (2005) identified elements including a well-articulated rationale for change, the quality of leadership, commitment from staff, sufficient resources and the responsiveness of organisational features that were cultivated through the change process. These elements were promoted as critical to enhancing the effectiveness of teacher training efforts. They were also identified in the work of Fuchs and Fuchs (2001) as strong features in ways to support the use of research in schools. Further, Miller et al. (2005) advocated attention be given to other variables including collaborative teacher education to ensure the research approach selected is a good *contextual fit*. Interventions should be unobtrusive, making them more acceptable to both teachers and students, and be consistent with their values and beliefs.

Winn & Zundans (2004) 2-year project involving two State Public Schools, in the central west of New South Wales included 40 special education students who were paired and worked with 20 students from local schools twice a week for 2 hours each day. The project was designed to enhance literacy development of primary aged
children, who were considered to be at risk in regards to their literacy and literacy development. It was also aimed at developing skills and competencies by the university students majoring in special education with a specific focus on developing their ability to plan and implement a research based literacy program. Limitations included the level of communication time between university students and teachers and linking activities that occurred at school and university.

The need for collaboration between the schools and the university to develop explicit links between theory and practice was identified as a key feature of this study. Results indicated that programs between the university and local schools were enhanced when the university students perceived them as valuable. The considerable time required implementing and monitoring collaborative research based intervention efforts were identified as an obstacle in this preservice RTP reading intervention.

The TE literature collectively supported the need for RTP factors including the need for sufficient time and the role of support and feedback in the use of research-based practices through efforts to strengthen teacher education programs (Barnes, 1999; Fuchs & Fuchs, 2001; Gersten et al., 2007; Griffin & Warden, 2006; Hipp, Huffman, Pankake, & Olivier, 2008; Korthagen, 2004; Shallcross, Loubser, Le Roux, O’Donoghue, & Lupele, 2006; Titone, 2005; Volonino & Zigmond, 2007; Winn & Zundans, 2004). Through this TE research the provision of peer and administrative support with feedback on multiple levels was presented as advantageous for educators to bridge the gap between research and practice.
Teacher educators share a responsibility for providing educators with a lens through which to view every learner as valued and essential. One way to value learners is by employing the best-researched practices when working with them. Similarly, encouraging TE programs to work collaboratively with educators to address identified needs may promote new knowledge and enhance the success of individual learners (Klingner, Vaughn, Arguelles, Hughes, & Leftwich, 2004; Klingner et al., 1999; Vaughn et al., 1998). A joint approach is said to provide coherent, collaborative, research-based and relevant opportunities for practitioners to develop skills that are supportive and foster achievement for all learners (Casale-Giannola, 2005; Darling-Hammond & Baratz-Snowden, 2007; Darling-Hammond & Berry, 2006; Golder et al., 2005).

The difficulty in maintaining a collaborative link between university and school partnerships was raised (Sirotnik as cited in Goodlad, 1993, p. 31). Concerns include differing norms, roles and expectations of researchers and practitioners. Sirotnik referred to this situation as a ‘cultural clash’ between universities and schools. TE programs bear heightened responsibility in addressing the longstanding concern that evidence-based knowledge is not being used to its full potential in school settings (Devine & King, 2006; Golder et al., 2005; Schmidt, Rozendal, & Greenman, 2002; Volonino & Zigmond, 2007).

Positive partnerships between schools and universities have been identified. Winn and Zundans (2004) presented a project designed to enhance literacy development of primary aged children considered to be at risk in regards to their
literacy and numeracy development. A key feature identified was the need for collaboration between the schools and the university to develop explicit links between the theory and practice so that educators comprehended the theoretical logic behind practical decisions. However, the considerable time required to implement and monitor collaborative research-based intervention efforts was identified as an obstacle in this RTP reading intervention (Winn & Zundans, 2004).

An initiative designed to enhance the knowledge, skills and attitudes of trainee teachers and to equip them in differentiating their teaching was reported (Golder et al., 2005). Evaluation reports indicated individualised teaching partnerships involving a systematic strategy supported by web-based resources were promising. The need to continue to develop practical ways of enhancing initial teacher education in relation to special educational needs and inclusion was promoted.

The examination of the TE literature identified consistencies with the RTP and PD literature. It built on the initial themes of accessibility, trustworthiness and usability of research describing their importance from a teacher educator rather than a practitioner perspective. Additional factors including teacher enthusiasm and fatigue and the length of time teachers are involved in learning a new instructional practice reflect the importance of a collaborative partnerships as well as individual personal attributes and qualities (Barnes, 1999; Darling-Hammond, 2011; D. Fuchs & L. S. Fuchs, 1998; Gersten, et al., 2007a; Griffin & Warden, 2006; Hipp, Huffman, Pankake, & Olivier, 2008; Korthagen, 2004; Shallcross, et al., 2006; Titone, 2005; Volonino & Zigmond, 2007; Winn & Zundans, 2004b).
Three of the four themes most commonly identified in the RTP and PD literature were also evident in the TE literature. The three TE themes that raised an awareness of possible RTP factors included the responsiveness of university education programs in ensuring the practical preparation of teachers, collaboration and support. Collaboration referred to involving practitioners in the research process within the TE context. The need for feedback on multiple levels is echoed. In a TE context collaboration was extended to include responsive and coherent course structures that contributed to a unified approach. In this context collaboration was cited as critical in developing explicit links between research and practice. This link should assist in aligning differing norms, expectations and roles of researchers and practitioners.

It was suggested that universities have the capacity to create practical pathways between research and practice. In order to achieve this demanding goal university education programs must be responsive to the needs of teachers and students. In the TE context programs should be a good contextual fit. They still need to be valued by students, be research based and be effective in delivery. They should also provide relevant opportunities and time for practitioners to develop skills that will be helpful in the classroom. TE that caters for the needs of both teachers and their students through addressing real life concerns are required. Support is the final theme that echoes and expands upon the sub themes identified in previous literatures. In the TE context notions of support addressed teacher enthusiasm and education efforts. If teacher’s needs and efforts are not supported they frequently experience fatigue and exhaustion (Gersten, et al., 2007a; Miller, et al., 2005). Acknowledgement of
personal qualities and attributes and strengthening them through supportive and professional programs has been introduced in TE literature.

In summary, universities were presented as having the capacity to create practical pathways between research and practice. In order to achieve this demanding goal university education programs must be responsive to the needs of teachers and students. In the TE context, programs should be a good contextual fit. They need to be valued by students, be research based and be effective in delivery. They must also provide relevant opportunities and time for practitioners to develop skills that will be helpful in the classroom. TE that caters for the needs of both teachers and their students through addressing real life concerns are required.

Given the limited literature that specifically identifies TE, PD or other factors that impact the RTP phenomenon, the review was expanded to look at other efforts that address the way research is established in practice. Comprehensive school based reform (CSR) and Concerns-Based Adoption Model (CBAM) represent such approaches. These initiatives have the capacity to deepen our comprehension of change elements through direct research examples and in turn raise an awareness of related RTP factors. The following section presents the Comprehensive School Reform (CSR) and RTP literature as it represents a large-scale effort whose guidelines specifically require the implementation of Research based practices at scale.
1.1.1.5. 2.4.1.5 Comprehensive School Reform and research to practice

The Comprehensive School Reform Program started in the US in 1998 to raise student achievement with a specific focus on using research-based effective practices. Efforts to encourage the use of scientifically proven methods and strategies to enable all children, particularly low-achieving children, to meet challenging academic standards may be viewed as a response to the RTP paradigm crisis (Bain, 2007b; McLeskey & Waldron, 2006; Slavin & Madden, 2001). CSR reform initiatives have yielded some project implementation theoretical and factor knowledge given their essential criteria is focused on bringing research-based practice to scale in public education. Of the 12 references that met the identified criteria, 6 offered a sound representation of RTP implementation factors as a result of CSR efforts. Knowledge gained through these references may guide efforts to directly investigate the RTP gap from a practical perspective are presented in Table 2.3.

The CSR program was authorized as a full program in 2002 as part of the No Child Left Behind Act (NCLB). Two major concepts including the mandating of school reform and its comprehensive nature (strengthening all aspects of school operations including curriculum, instruction, professional development, parental involvement, and school organization) and the use of scientifically based research models (models with evidence of effectiveness in multiple settings) were emphasised (Orland, Connolly, Fong, Sosenko, Tushnet, Yin, Burt and Warner, 2008). Essentially the CSR program provided funding for schools that address the following
criteria: (1) Proven methods and strategies which are based on scientifically based research and effective practices and have been replicated in schools with diverse features. (2) Professional development that constitutes high quality and continuous PD and training for staff (3) Comprehensive design with the integration of instruction, assessment, classroom management and PD for effective functioning and aligning these functions into a school-wide reform plan. (4) Support from staff: Including school faculty administrators and staff. (5) Coordination of resources, including the identification of how federal, state, local or private resources can assist schools to coordinate and sustain reform efforts. (6) Evaluation: Arrangement to evaluate reform implementation and student results. (7) External assistance: University or other high quality external assistance from a CSR entity. (8) Parent and community involvement: In planning and implementing school enhancement activities. (9) Measurable goals for student performance including benchmarks for these goals. (10) Scientifically based research to improve the academic achievement of students (added in 2001).

CSR represented America’s most ambitious school reform effort with over US$1.8 billion spread over 6,000 schools (U.S. Department of Education, 2004). Knowledge of CSR implementation integrity and data allowed researchers to determine the impact of research based programs over time and provided guidance for future efforts. Comprehensiveness in this context referred to designs being practical by being complete. CSR research suggested the need for the presence of feedback systems, well aligned system and school policy goals, evaluation as an emergent function of the implementation process rather than an add on and the provision of adequate professional development and material support. The following research
identifies RTP knowledge was gained from the implementation of CSR models prior to the program being discontinued by the Federal Government in 2007 (Borman, 2009).

Tyack & Cuban (1995) identified the tension that long existed between Americans’ intense faith in education and the slow pace of changes in educational practices. Previous attempts to improve education have resulted in school reform efforts that rarely match expectations. This is due to the difficulty in changing the daily interactions of teachers and students (Tyack & Cuban, 1995). Symptoms of the failure of previous reform efforts stemmed from the inability to intersect content and process. These symptoms were not unlike claims made in the three previous searches about the causes of the RTP gap and included an inadequate comprehension of the time, effort and resources required, a lack of insight about the nature of classroom setting and the provision of PD. Knowledge gained from this fourth round of review did yield additional factors and increased depth of information that may have contributed to these symptoms. Such knowledge included incomplete design, modest achievement, difficulty in scaling within schools, limited feedback, over reliance on school leadership, under use of technology, limited feedback and a lack of theory (Bain, 2007). As a result RTP knowledge can be sought from the outcomes of CSR’s goal of making many parts work together as a “self-reinforcing whole” (Bain, 2007, p.21).

The challenging history of school reform and the inability to sustain RTP efforts indicate that the balance of content and process has been difficult to achieve. To accomplish this balance, the challenging intersection between content and process
must be firstly identified and then accommodated. Following are examples of CSR
efforts that build on knowledge gained from past attempts to achieve the optimal
balance between content and process. Through understanding the content and
process required in CSR efforts an effective intersection of key requirements may be
achieved and contribute to knowledge of ways to implement and sustain RTP
initiatives.

A large study was conducted by Hurley, Chamberlain, Slavin, & Madden (2001)
evaluated the achievement outcomes across schools that used Success for All from
1994–1998 by comparing data collected on the internet. Success for All is an
example of an extensively evaluated comprehensive school reform reading model
that was awarded the highest rating for research quality and outcomes by the
Comprehensive School Reform Quality Centre at the American Institutes for
Research (CSRQ, 2005).

Hurley et al.’s (2001) study investigated the gains made on the Texas Assessment of
Academic Skills (TAAS) reading measures for grades 3–5 across 111 schools in the
state of Texas. Gains were determined by comparing the percentage of students
within schools that passed the TAAS reading measures. The collection of data via
the Internet may be considered a limitation, however the analysis of the results
identified that gains from the students from the Success for All schools were
significantly better than those from the rest of the state. Borman (2009) and Waldron
& McLeskey (2010) later supported the authors’ claims that the success of such
programs is dependent on the consistent commitment of all teachers and leadership
personnel (Hurley et al., 2001).
Other studies compared Success for All schools results to matched control schools results on individually administered standardized tests such as the Woodcock Reading Mastery Test and the Durrell Analysis of Reading Difficulty. Madden et al., (1993); Ross et al., (1995); Ross et al., (1997) provided examples of these studies as they followed the progress of students in both Success for All and control schools starting at kindergarten or first Grade. These studies were conducted in high-poverty schools within eleven school districts. A total of 6000 students formed the control group and 6000 formed the Success For All group. Results from individually administered assessments revealed that reading grade equivalents for Success for All first graders were nearly three months higher than the equivalent students from the control group. By the end of fifth grade the difference increased to slightly more than a full grade.

These findings were consistent with the results from a summary of research on the SFA program conducted by the Success For All Foundation in 2006. Collectively they identified positive outcomes in increasing student reading (Slavin et. al., 2006). Given that educators are increasingly being asked to use research-based programs, the lessons learnt from the practical implementation of SFA may yield knowledge of factors that support the translation of other research based programs to practice.

Slavin’s (2004) paper titled Translating research into widespread practice: The case of Success for All (SFA) summarized implementation considerations as a result of collective SFA experiences in an attempt to guide the effective implementation of other research based programs (RBP). Assertions that broad scale implementation of RBP can occur if well developed student materials, teacher manuals, assessment,
training, follow up and implementation assessments were evident. Slavin (2004) maintained that if teachers were taught the principles of good practice and asked to apply them to their own materials and instruction, it would be difficult to maintain consistent high quality implementations. Given that “CSR is only as effective as its implementation” (Kurki, Boyle & Aladjem, 2006), strong teacher buy in is required across schools in favour of the program adoption if it is to be implemented successfully. Required resources including time and professional development and a rapid roll out of the main program elements so that teachers can see improvements will assist in maintaining the programs implementation (Slavin, 2004).

Borman, Hewes, Overman, and Brown’s (2002) independent Meta analysis of "whole-school" or "comprehensive" reforms identified that the combined quantity, quality, and statistical significance of evidence set them apart from the rest. Analysis of data highlighted that schools implementing CSR models for five years or more showed particularly strong effects. Indicating that a long-term commitment to validated research is required to establish comprehensive school reform. The components attributed to the reforms success included the need for ongoing staff development and training to enhance comprehension of the program details and implementation concerns; the need for clear evidence of school-based support with the authors suggesting a 75% approval before the reform can be adopted; replicable student performance assessment methods and benchmarks that the school can use to track student progress.

Direct Instruction is another comprehensive school reform model, which consisted of carefully scripted lessons, backed by texts and workbooks. In a fact sheet presented
by The Baltimore Curriculum Project, Direct Instruction was denoted as being a remarkable success in assisting children with reading, writing and maths since 1996. Claims that the Direct Instruction model offered a comprehensive approach to school reform, which included professional development, measurable weekly goals, staff support, and evaluation and coordination of resources emerged. Mac Iver, Kemper and Stringfield (2003) identified these assertions in a 4-year study examining the implementation of the Baltimore Curriculum Project (BCP) in six Baltimore City public schools. BCP used a combination of direct instruction (DI) and core knowledge as its reform curriculum. Each school was demographically matched with a similar, within-district school. Two cohorts of students were followed throughout the 4 years (students who were in either kindergarten or grade 2 during 1996-97). Interviews with principals and DI coordinators and focus groups with teachers were conducted each year to gauge staff perceptions of the innovation. In the first 3 years, classroom observations were made in BCP schools. Overall, DI curriculum and instructional methods were implemented in BCP schools, though implementation did not proceed at the desired rate in kindergarten until year 4. Implementation of core knowledge was not envisioned to begin until year 3 and preceded more slowly than DI implementation. A lack of access to data about other interventions was presented as a limitation of the study and this could inform RTP efforts as participants identified the desire to be well informed.

The experiences of this longitudinal research raised issues about the transfer of research to practice as achievement tests data indicated mixed results for students, depending on subject, grade level, and school. Results were most positive for
mathematics computation with students moving from the 16th percentile at the end of grade 1 to the 46th percentile by the end of grade 3. This was compared to growth from the control group moving from the 27th to the 36th percentile over the same period. DI students made the most significant improvements in mathematics computation and reading. The effectiveness of the continuous structure and logical progression of the program with the need for ongoing PD to implement the program with integrity were issues raised. The ability to regularly identify student progress was identified as a strength, yet frustrations about the robotic nature of the program and lack of flexibility were identified through focus groups. In brief staff preferences and needs of the students within specific settings were identified as priorities in the implementation of DI in the Baltimore Curriculum Project.

Appelbaum & Schwartzbeck (2002) questioned CSR programs' evidence of effectiveness and the evaluations' degree of rigor in a report that presented the outcomes of a meeting of CSR researchers on how CSR should be evaluated. The discussion focussed on the goals of CSR and definitions of "success". Methods of measuring success in a CSR context and the critical role of the district in the success of reform were also presented. Recommendations included developing common measures of achievement and implementation to ensure consistency and the need for a mutually agreed upon definition of "significant" student progress. The importance of developing universal standards for good implementation was prioritised. As CSR is based on the implementation of research-based practices, these recommendations may guide student achievement using research-based projects.
Bain and Hess’ (2000) study sought to establish whether changes in faculty members' perceptions of their work environment compared with the implementation of the School Design Model (SDM) program. Stakeholders’ perceptions of their contribution to students, collegial support, and autonomy in a secondary school were examined over four years from 1993-1997. The first administration occurred during a pilot phase of the SDM when the school’s traditional independent school program and a pilot of the SDM program were both in operation. The second administration occurred 2 years later during the full implementation of the program, and the third during the continuation phase after an additional 2 years. Results indicated higher overall scores for faculty perceptions of culture in the SDM program over teachers in the traditional program. These improvements remained stable in both the implementation and continuation phases of the program. Comparison with a benchmark study of over 40 schools revealed that despite the comprehensive reform of the work environment, faculty remained positive toward their contribution to students and felt more reinforced by peers. Although this study only represented one case it provides valuable knowledge about RTP considerations. The interpretation of results noted the benefits of a collaborative approach in providing the faculty with collaborative problem solving and instructional decision making skills. Educators indicated that having a sense that their efforts are making a difference is essential irrespective of the RTP program selected or their paradigm approach. This work links CSR and RTP as a need for a complete framework for implementation including methods, design, tools and strategies was presented as being beneficial to both initiatives.
More recently comprehensive school reform design efforts have built on this knowledge and identified potential targets that contribute to making research responsive to the needs of staff and students. Bain’s (2007) longitudinal Self Organizing School (SOS) case study took place at the Brewster Academy, a private secondary setting catering for 350, grade 9-13 students and span across a decade. The project employed the School Design Model (SDM) as a strategic methodology to build a new program that responded to commonly identified issues that have emerged from RTP literature. Limitations of this study include the inability to assign children to conditions and the normal faculty turn over within an 8 year period. The study employed a theory-based approach to the challenges of site-based reform and identified a number of implementation and RTP factors relating to the content and process of CSR. Knowledge of these factors were identified during the change process and included nine targets which represent critical areas of need and potential goals of next generation comprehensive school reform design (Bain, 2007).

The nine targets are presented individually as they reflect knowledge gained from SFA, DI and other CSR efforts. They include educational power, comprehensiveness, emergent feedback, systemic technology, professional lives, school level design for school level influence, effective adoption, implementation integrity and theory (Bain, 2007). These targets collectively summarize assertions identified through research and commentary pieces as they present an approach that deepens our comprehension of the challenges and future opportunities associated with intersecting RTP content and process.
Educational Power is a target that assists in making the migration from research to practice by suggesting that in the first instance an approach needs to have the research based capacity to bridge the gap. It refers to the research effect size as minimal when measured against effort, time and money expended and suggests that research based practice must be leveraged in sustainable ways to magnify the desired effects. In brief educators need to be sure that research has “power” before applying it. The second related target theory pertains to the need for a complete framework. The implications of the use of theory in the responsiveness of research category are that this target could identify and address the issues that get in the way of RTP. Theory and educational power represent targets that can be linked to give research the framework and leverage to directly respond to the needs of individual settings.

Emergent feedback, effective adoption and school level design for school level influence support and deepen administrative backing and supportive environment factors knowledge. Emergent feedback has proven to be beneficial as a feature of the program design as it allows the monitoring and management of implementation through responsive, timely and relevant feedback. Through the use of school level design, interventions that address school level factors can be scaled beyond single classrooms. School leadership can be a key factor connecting content, implementation of design with people, processes and systems. Professional lives describe initial teacher enthusiasm and can be linked with TE efforts to raise awareness of how this passion can readily turn to fatigue and disappointment. Professional lives also refer to how teacher’s jobs are defined, recognized and rewarded. The acknowledgment of these dimensions and concerns related to the
status and expectations of educators can assist in the planning and practical application of research efforts.

Collectively these factors combine to create a strong case for their use in a RTP investigation, which aims to validate elements that contribute to the well-documented RTP gap. As a goal of comprehensive school reform is to make the many parts work together, knowledge of these targets assist in raising an awareness of elements that go beyond these usual RTP factors. In sum CSR efforts have consolidated and expanded on previous literatures to identify themes that echo and expand upon previous literatures.

These themes include scalability and educational power, comprehensiveness and supportive environments and structures. Scalability and educational power identifies the need for teacher training and use of scientific research. It suggests research is validated and has scalability potential prior to application. Elements of Bain’s (2007) school level design for school level influence target fall into this theme as knowledge of the practical elements must be considered in order to scale projects. The second theme is titled comprehensiveness. In order to make projects comprehensive, previously identified collaboration themes are essential. The CSR literature expands on this and identifies the need for a complete framework.

Knowledge of the intersection of content and process will assist in identifying factors that assist schools in working together as a self reinforcing whole. Comprehensiveness also refers to the project being comprehensive by design, by being adequate and complete. The third theme, supportive environments and structures expand upon previous notions of support. This is done through the
introduction of calls for the use of systemic technology and well-aligned system and policy goals. This theme also incorporates parent and community involvement in supporting school activities. The use of evaluation as an emergent function rather than an add on may also support planning and implementation efforts.

The final section introduces the Concerns Based Adoption Model (CBAM) as it represents a prolific longstanding model related to adopting change. This model is presented as a final component of this literature review as changed approaches are required from both researchers and educators as they strive to bridge the RTP gap. Increased knowledge of stages of concerns associated with change may raise awareness of both personal and environmental features and assist in preparing and accommodating future RTP efforts.

2.5. Concerns Based Adoption Model (CBAM)

The Concerns-Based Adoption Model is a framework that was developed at the University of Texas and has implications for practice as it raises an awareness of the factors involved with a change process (Hall & Hord, 1987; Hord, Rutherford, Huling-Austin, & Hall, 1987; Loucks-Horsley & Stiegelbauer, 1991). The basis of this model can provide a diverse lens into a deeper awareness of ways RTP transition can be enhanced through the raised knowledge of how to support change.

The CBAM model presented below identifies the primary concerns of individuals in the process of change. They are beneficial as they suggest that anticipating people’s concerns can enable innovators to focus on appropriate forms of support. This work also reassures innovators that it is possible to anticipate much that will occur during
a change process. The primary concerns of individuals in the process of change are identified in these seven stages.

2.6. Stages of Concern

Awareness. At this stage, individuals are not concerned about the innovation.

Information. Individuals would like to know more about the innovation before they adopt the change and undertake new practices.

Personal. People at this stage are beginning to think about how the change will affect them.

Management. Concerns about how to make the change work characterize this stage.

Consequence. Individuals are beginning to make the new practices their own and now are concerned about how the change is affecting students.

Collaboration. People at this stage are trying to connect their work to what others are doing.

Refocusing. Individuals now have integrated the practices into their professional lives and are examining ways to improve these practices.

More than three decades ago Hord, Rutherford, Huling-Austin & Hall (1978) grouped the seven stages into three main concerns. The first 2 stages can be seen as concern for self: I am not concerned about the innovation; I would like to know more about it; how will using it affect me? Stage 3 is a task orientated concern: I seem to be spending all my time getting materials ready; keeping track of progress is
difficult; I am still not sure how to do this. Stages 4 to 6 are concern for impact: I am looking at the effects of the innovation on my students; I am concerned about relating what I am doing with what other instructors are doing; I have some ideas about something that would work even better.

Horsley & Loucks-Horsley’s (1998) commentary piece added clarity to the CBAM framework. They suggested that when most educators think of change they think of a new program or practice. Horsley & Loucks-Horsley (1998) proposed that programs do not represent change they are examples of the content of change. CBAM identified the parallel between the natural and developmental process individuals go through when they engage in something new or different.

CBAM examines this process in three distinct ways:

Stages of Concern (introduced above).

Levels of Use.

Innovation Components.

2.7. **Levels of Use**

Levels of use described the behavioural dimension of change. This referred to what teachers do in the classroom when making the transition from teaching one way to teaching differently. There are three Levels of Use that define nonusers of a program these include:

Level 0, Non-use. Refers to no action being taken with regard to the program or practice;
Level I, Orientation. Refers to a person seeking information about the program or practice;

Level II, Preparation. Identifies that a decision has been made to adopt the new practice, and the person is actively preparing to implement it.

CBAM also reveals five distinct Levels of Use among users:

Level III, Mechanical. Reflects early attempts to use new strategies, techniques and materials.

Level IVa, Routine. The establishment of a satisfactory pattern of behaviours.

Level IVb, Refinement. Refers to where people feel comfortable and go beyond the routine and assess the impact of their efforts and making changes to increase that impact.

Level V, Integration. When people are actively coordinating with others to use the innovation.

Level VI, Renewal. The final level where people seek more effective alternatives to the established use of the innovation.
2.8. **Innovation Components**

Innovation Components or Configurations referred to the importance of recognizing the specific parts of a change. They provided staff developers with tools called Practice Profiles. Practice Profiles require an innovation to be formally defined. A description of the resources and conditions necessary to implement them with critical program components identified.

This description of the three aspects of CBAM above have been introduced due to the knowledge it presented on the crucial phases of change. This information yielded knowledge of factors that may contribute to the transition of RTP, particularly in the early implementation phases.

In an early case study example conducted by Pratt, Hall, Hord & Thurder (1982) that demonstrated the collaborative efforts of multiple agenda and agencies, a concise overview of the basic assumptions, which outlined the improvement process of CBAM, were presented. These CBAM assumptions have been considered in the search of factors that contributed to the sustainment of research based applications as they have successfully united efforts by teachers, curriculum developers, staff developers, school administrators, principals, evaluators and researchers (Pratt, 1982). Participants included staff of three different agencies across America. These agencies included the staff developers at Jefferson County, Colorado, staff developers at Beach County Schools Florida and a team of researchers at the Research and Development Centre at the University of Texas. Qualitative and quantitative data was collected over 4 years and emphasis was placed on analysing
what occurs at individual teacher and classroom level when innovations are introduced.

Claims that change is a process not an event were identified in this research (Hall, 1980; Horsley & Loucks-Horsley, 1998; Pratt, 1982). Results indicated that change could not simply be viewed in terms of larger organisational factors. Change (or RTP endeavours) must be viewed from the point of view of the many individuals who participate in it. Teachers, administrators and others experienced efforts to improve school projects individually as well as collectively. This implied that individual members of a community must be considered when change is expected. Through using the knowledge outlined in Pratt et.al.’s (1982) planning, implementation, and evaluation of two CBAM case studies, a deeper comprehension of factors that could expand upon RTP knowledge may be gained.

The use of CBAM to address teachers concerns was demonstrated through Jefferson County (Colorado) Schools program to improve elementary science curriculum and instruction and the Palm Beach (Florida) Schools development and implementation of the Unified Curriculum program. This research emphasized the important role of training and the importance collaborative efforts. The authors suggested that staff and principals do not benefit from one or two-day workshop and those principals do affect teacher’s implementation and use of new programs. A short list of key change principles was presented at the conclusion of this research. The additional principles that had relevance for future RTP efforts included the need to develop as much clarity and consideration about the operational components of the innovation prior to implementation. When all stakeholders have input into expectations and a common
understanding about the implementation less confusion results. Professional
development should occur over time and address participants concerns as “pre-use
launch” workshops are ineffective. Finally an advance plan of the overall design of
the intervention had been presented as critical. This principle allows for increased
continuity and support as provisions for staff meetings, newsletters and day-to-day
occurrences can be planned for and closely interrelated complementing each other.

Rutherford (1982) conducted a study that examined whether principals have similar
stages of concern about their change facilitator role, and, if they have concerns about
the shift as the change process unfolds. Five short case studies were presented to
illustrate how the Stages of Concern looked and shifted during the period of the
study. Interviews were conducted with 5 principals at different settings and case
study notes were collected. A limitation included that verification of tentative data
on the relationship between the principal’s experience and identified concerns. The
author noted that if this data had been verified it would have had important
implications for the staff development of change facilitators. Results indicated that
while change facilitators' concerns are different in content from those of teachers, the
overall concern dynamic seems to be the same. RTP implications that fall from this
research included that the teacher is a major contributor to facilitating change in
schools. This impacts on the role of the principal, as a top down approach may be
detrimental to the transition of research to practice. Another implication was that
effective PD or TE must consider the needs and concerns of individuals. These
concerns will change at different points in time and RTP efforts that are aware and
cater for these changes through training and resources may be more effective.
Rutherford (1986) presented a meeting paper reporting on teachers' contributions to school improvement. Through reflecting on fifteen years of research his report presented findings of research studies on how teachers responded to attempts to implement educational innovations. Details on how this information was accumulated and synthesized were not located however a summary presents insights on how teachers’ beliefs could impact upon the transition of RTP. The author claimed that in many cases, teachers believe their future in relation to the innovation is determined not by them, but by some superior. Other teacher responses indicated that change will soon fade away as other fads have. Some teachers may also give the impression that they are using an innovation when, in fact, they are not. Researchers have concluded that teachers are most often the recipients rather than the initiators of any change affecting their classrooms and are therefore resistant to innovations. It is pointed out that although it is essential that teachers be receptive to change, when large numbers of participants are involved, developing universal teacher ownership of the change is difficult. The Concerns-Based Adoption Model provided a systemic plan for facilitating change that gives teachers priority consideration. This report raised awareness of teacher perceptions and strengthens the importance of shared ownership between researcher and educators when implementing research-based practices.

Huberman and Miles (1987) conducted a CBAM validity study that combined quantitative data from 146 school districts with case studies from 12 sites to examine the process of innovation in schools. A spectrum of contexts ranging from maths, counselling, reading to environmental and social sciences were investigated. Phases
of the implementation framework included ways to identify the adoption, early
implementation and later implementation phases of innovation were employed to
analyse the feelings and concerns of the teachers from 12 sites. Huberman and Miles
(1987) proposed that concerns appeared to be self-orientated during early
experiences with innovations. This implied that to implement change stakeholders
must change first. Concerns regarding efficient management, collaboration,
refocussing and student consequences or effects were said to occur during the later
stages of implementation. Huberman and Miles (1987) efforts supported the CBAM
shift in concerns from self to practice or task-orientated concerns. They also
proposed that programs need different types of nourishment to mature. They must
address the stakeholder’s needs, feelings and perceptions prior to addressing
program-orientated concerns. This implied that for research to be translated to
practice, factors that attend to the personal concerns must be addressed initially.
RTP initiatives may then move into more mature stages where they build on initial
experiences and task orientated concerns become a priority.

Horsley & Loucks-Horsley (1998) presented the phases described above and
introduced additional key themes embodied in the model. They identified their bias
early and stated they were involved in the development of CBAM. Their article
described ways CBAM can be used when developing and evaluating staff training
efforts. The first three stages of the CBAM model have implications for teacher
education in a RTP context. The first stage involved attending to where people are at
and addressing their concerns. Secondly, the allocation of realistic time frames with
responsive assistance was determined to be critical to the implementation of new
interventions. Finally, new innovations for teachers often grafted on top of regular expectations, placing increased and unrealistic demands on teachers. The identification of such elements through CBAM research raised awareness of possible factors beneficial to the progression of reform efforts. This work expanded RTP knowledge beyond the usual claims made through intervention research.

This tri phased CBAM system identified an awareness of participant needs initially, prior to moving into a middle management driven stage focusing on task mastery. The final stages of concern related to the impact of an activity and related results. This knowledge broadened claims that research must respond to the needs of individuals and drew attention to their specific needs for information, assistance and support (Bybee, 2005). Through work on CBAM stages of concern educators and researchers gained an increased awareness of a research based developmental process, which may guide implementation and sustainment efforts (Sweeny, 2003). Davidson’s (2010) action research using mixed methods employed CBAM’s stages of concern continuum to determine if PD alters the concerns of junior high teachers toward inclusion. Training occurred over four months and was focused on inclusion and incorporated information on building communities, developing strategies for collaboration, equity, accommodations to student learning and the change process. Results identified that teachers were concerned about managing tasks whilst overcoming barriers to inclusion and the impact that the use of inclusive practice has on them and their students. This study provided recent insights on the factors to consider when employing PD to establish inclusive communities of practice.
The CBAM literature expanded upon around three themes identified in review. They are research based change process, support through change and collaboration. The first theme identifies the work of Horsley and Loucks-Horsley (1998) and recognised that change is a process, not an event. It implied that PD should occur over time and be dynamic in addressing participants changing needs. Through raising awareness of the change developmental process the recognition that changes in support structures followed. The second theme Support through change identified that comprehensive change goes far beyond the individual. As change is a highly personal experience involving developmental growth in feelings as well as and skills and knowledge, sustained assistance was required. This assistance will need to change as required by the changing needs of the stakeholders. The final theme collaboration once again echoes the previous sub themes. In the CBAM literature the notion of collaboration was expanded to include shared ownership of the elements involved in and resulting from change process. Collaborative efforts may change to address the changing needs of stakeholders and their environments.

The practical knowledge gained from CBAM and CSR projects such as Slavin’s Success for All and Bain’s Self Organizing School efforts provided an insight into the challenges associated with merging content and process. They collectively delved deeper than prior curriculum or intervention based initiatives to provide an insight into the totality of the life of a school and the issues around RTP. The knowledge of the RTP factors gained through intervention research were linked with CBAM and CSR efforts to gain a more comprehensive perspective of ways to enhance the use of research innovations. Table 2.3 presents that major themes
identified through RTP, PD, TE, CSR and CBAM literature. The major themes identified in each of the literature summaries are collated through the outlined bodies of literature and have been presented along with the authors who presented the specific factors in Table 2.3.
### Table 2.3
Consistency and development of RTP literature based within and across identified areas

<table>
<thead>
<tr>
<th></th>
<th>Research to practice</th>
<th>Professional development</th>
<th>Teacher education</th>
<th>CSR</th>
<th>CBAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration</td>
<td>Collaboration</td>
<td>Collaboration</td>
<td>Collaboration</td>
<td>Collegiality</td>
<td>Collaboration</td>
</tr>
<tr>
<td></td>
<td>Shared responsibility, understanding, contribution and ownership (Gunstone &amp; Northfield, 1986; Hall, 1982; Kratochwill &amp; Shernoff, 1993; Seashore &amp; Jones, 2001).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collegiality, mutual respect and cooperation (Foegen et al., 2001; Foorman &amp; Moats, 2004; Fuchs &amp; Fuchs, 1998, 2001; Toch, 1982; Vaughn et al., 2001).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Substantive frequent interaction and communication (Carnine,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint partnerships (Ysseldyke, 1989; Gersten et al., 1997; Gravani, 2008).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mutually identified boundaries, structures and purposes (Gravani, 2008).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“Buy in” from all stakeholders (Klingner et al., 2003).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engagement in pursuit of genuine questions, problems and solutions (Sydoriak &amp; Fields, 1997; Vaughn et al., 1998).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint partnerships/active involvement (Klingner et al., 2004; Malouf &amp; Schiller, 1995).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teacher contribution and involving practitioners in the research process (Billups et al., 1997; Darling-Hammond, 1994; Gravani, 2008; Grimes &amp; Tilly, 1996).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multiple level feedback (Grimes &amp; Tilly, 1996).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Responsive, cohesive course structures (Miller et al., 2005).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mutually aligned norms, expectations and roles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Need for complete theory framework (Bain, 2007)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intersection of process and content (Tyack &amp; Cuban, 1995)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adequate and complete design (Bain, 2007; Bain and Hess, 2000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Self reinforcing (Bain, 2007)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Well aligned system and policy goals (Bain, 2007)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shared ownership of the elements involved in and resulting from the change process (Horsley &amp; Loucks-Horsley, 1998; Rutherford, 1982)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shared acknowledgement of changing needs of stakeholders and environments (Huberman &amp; Miles, 1987; Rutherford, 1982)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understood by all and united (Pratt et al., 1982)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Awareness of shared ownership and individual strength (Rutherford, 1982)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Communities of practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Feedback (Carnine, 1997; Sydoriak & Fields, 1997).


Consistent and coherent (Grimes & Tilly, 1996).

Flexibility (Mac Iver, Kemper & Stringfield, 2003).

<table>
<thead>
<tr>
<th>Resource Support and PD</th>
<th>Support</th>
<th>Support</th>
<th>Supportive Environments &amp; Structures</th>
<th>Support through change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term with adequate time and materials (Bain, 2007b; Fuchs &amp; Fuchs, 2001; J. Klingner, S. Ahwee, P. Pilonieta, &amp; R. Menendez, 2003; Schneider &amp; McDonald, 2006; Vaughn &amp; Klingner, 2000).</td>
<td>Teachers need to feel sufficiently prepared (2.7)</td>
<td>Addresses teacher enthusiasm and concerns (Gersten et al., 2007b; Miller, et al., 2005).</td>
<td>Emergent feedback (Bain, 2007)</td>
<td>Sustained assistance (Horsley &amp; Loucks-Horsley, 1998; Rutherford, 1982)</td>
</tr>
<tr>
<td>Positive attitude from students and peers and pride in academic</td>
<td>Networks (Klingner et al., 1999).</td>
<td>Awareness of fatigue and exhaustion (Gersten et al., 2007; Miller et al., 2005).</td>
<td>Evaluation as an emergent function rather than an add on (Bain, 2007)</td>
<td>Support structures must change as needs change (Horsley &amp; Loucks-Horsley, 1998; Rutherford, 1982)</td>
</tr>
<tr>
<td></td>
<td>Sufficient instructional time (Klingner et al., 2003)</td>
<td>Support personnel qualities and attributes (El-Dinary et al., 1994).</td>
<td>Use of systemic technology (Bain, 2007)</td>
<td>Beyond individuals (Huberman &amp; Miles, 1997; Sydoriak &amp; Fields, 1997; Toch, 1982).</td>
</tr>
<tr>
<td>Achievement (Foorman &amp; Moats, 2004).</td>
<td>Ongoing stakeholder support and assistance (Klingner et al., 2003).</td>
<td>Need for theory and well designed programs to make TE more coherent (Grimes &amp; Tilly, 1996).</td>
<td>Well developed student materials, teacher manuals, assessment and training (Slavin, 2004)</td>
<td></td>
</tr>
<tr>
<td>Well developed student materials (Klingner et al., 2003).</td>
<td>Limiting competing demands to achieve a balance of multiple agendas (Vaughn et al., 1998).</td>
<td>Adequate depth and time to research based practices (Foorman &amp; Moats, 2004).</td>
<td>Professional Lives acknowledgement of the need for recognition and reward (Bain, 2007)</td>
<td></td>
</tr>
<tr>
<td>Professional Development Consistent (Billups et al., 1997; Gunstone &amp; Northfield, 1986).</td>
<td>Scientifically based instructional practices (Little &amp; Houston, 2003).</td>
<td></td>
<td>Instructional leader support for the project (Hurley et al., 2001)</td>
<td></td>
</tr>
<tr>
<td>Address needs (Billups et al., 1997; Carnine, 1997; Seashore &amp; Jones, 2001).</td>
<td>Evidence based and proven to be effective with an integration of instruction, assessment and classroom management components (Slavin, 2004).</td>
<td></td>
<td>Regular identification of student progress (MacIver, Kemper &amp; Stringfield, 2003)</td>
<td></td>
</tr>
<tr>
<td>Active teacher involvement (Sydoriak &amp; Fields, 1997).</td>
<td>Central to students learning and students performing well (Klingner et al., 2003).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review research to increase research knowledge (Sydoriak &amp; Fields, 1997).</td>
<td>Viewed as credible by teachers (Klingner et al., )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Comprehensive (McLeskey & Billingsley, 2008).

<table>
<thead>
<tr>
<th>Responsiveness of research</th>
<th>Responsiveness</th>
<th>Responsiveness of University education programs</th>
<th>Scalability and Educational Power</th>
<th>Research Based Change Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Useable (Billups et al., 1997; Carnine, 1997; Seashore &amp; Jones, 2001).</td>
<td>PD programs must respond to genuine teacher needs and concerns (Little &amp; Houston, 2003).</td>
<td>Joint partnerships (Miller et al., 2005).</td>
<td>Use of scientific research (Borman et. al., 2002)</td>
<td>Responds to personal growth in knowledge and skills (Horsley &amp; Loucks-Horsley, 1998; Rutherford, 1982)</td>
</tr>
<tr>
<td>Accessible (Billups et al., 1997; Carnine, 1997).</td>
<td>Responds to classroom contexts and organizational demands (Klingner et al., 2003).</td>
<td>Effective delivery (Foegen et al., 2001).</td>
<td>Joint partnerships (Borman et. al., 2002)</td>
<td>Change is a highly personal experience (Horsley &amp; Loucks-Horsley, 1998; Rutherford, 1982)</td>
</tr>
<tr>
<td>Trustworthy (Carnine, 1997).</td>
<td>Consistency (Billups et al., 1997; Gunstone &amp; Northfield, 1986).</td>
<td>Good contextual fit (Miller et al., 2005).</td>
<td>School level design for school level influence (Bain, 2007)</td>
<td>PD should occur over time and be dynamic in addressing varying</td>
</tr>
<tr>
<td>Manageable and efficient (Carnine, 1997; Gunstone</td>
<td>Need for opportunities and</td>
<td></td>
<td>Self reinforcing (Bain, 2007)</td>
<td></td>
</tr>
</tbody>
</table>
Examined in rich contexts and grounded in practice with research details provided (Billups et al., 1997; Carnine, 1997; Sydoriak & Fields, 1997).

Joint ownership (Sydoriak & Fields, 1997).

| Time for practical development of classroom based skills and knowledge (Winn & Zundans, 2004). | Continuous program structure and logical progression (Mac Iver, Kemper & Stringfield, 2003) | Participant needs and abilities (Rutherford, 1982) |
2.9. Review of the literature

In summary the RTP literature indicates that for research to be responsive through an intersection of process and content, the themes identified in table 2.3 needs to be addressed. Consistency in these themes was evident although each theme was interpreted in different ways in each of the domains (PD, TE, CSR and CBAM). Initial RTP comments by Carnine’s (1997) and others included the importance of teacher contribution, trustworthiness, usability, accessibility of educational research and the need for consistent research findings are supported and expanded upon in later literature based searches (Billups, 1997; Breslin & Buchanan, 2008; Capizzi & Fuchs, 2005; Carnine, 1997b; De Landsheere, Masoner, Masoner, Dickson, & Kida, 1981; Foegen, et al., 2001; L. S. Fuchs & D. Fuchs, 1998; Hall, 1978; Hall & Pratt, 1984; Hord, 1981; Horsley & Loucks-Horsley, 1998; Kornblet, 1997; Malone, 1984; Malouf & Schiller, 1995; Miller, et al., 2005; Miretzky, 2007; Pratt, 1982; Rutherford, 1986; D. Sydoriak & M. Fields, 1997).

Other intervention research raised an awareness of the need to be responsive to organizational demands; the need to display tolerance for initial implementation difficulties and the importance of recognizing accomplishments and encouraging feedback on multiple levels (Grima-Farrell, Bain & McDonagh, 2011; (Hargreaves, 2007; Hasbrouck, Woldbeck, Ihnot, & Parker, 1999; Miller, et al., 2005). In an effort to search beyond these commonly identified RTP factors, a broader search was conducted that links accumulated RTP knowledge to the totality of school based RTP efforts directly.

CSR provided a deeper insight and additional awareness of the RTP context, the elements and factors required to implement and sustain reform efforts. This increased knowledge about the practical capacity of such complex reform initiatives provided research based
information on ways reform efforts contribute to making research more responsive (Aladjem, et al., 2006; Bain, 2007b; Bain & Hess, 2001; McLeskey & Waldron, 2006; Sherwood, 1999; Slavin & Madden, 2001). CSR efforts specifically identified a diverse range of elements that contributed either directly or indirectly to the factors that were suggested to influence RTP.

Hord, Rutherford, Huling-Austin, and Fall’s (1987) suggestion that "one of the most common and serious mistakes made by …leaders of a change process is to presume that once an innovation has been introduced and initial training has been completed the intended users (teachers) will put the innovation into practice" (1987, p. v) was supported by Klingner et. al (2003), who advocated that sustaining a project is a process, not an event. Researchers sought to establish long-term collaborative partnerships with schools as a way to facilitate change and enhance sustainability (Abbott et al., 1999; El-Dinary, Pressley, Coy-Ogan, & Schuder, 1994; MacArthur, Schwartz, Graham, Molloy, & Harris, 1996; Schumm & Vaughn, 1995; Vaughn, Hughes, Schumm, & Klingner, 1998). These partnerships have promoted deeper involvement from teachers and included some form of ongoing support from the project implementation team after the initial instruction in research-based practices has taken place.

Some teachers have effectively implemented and sustained research based instructional practices over time whereas others have not implemented the practices at all (Englert & Tarrant, 1995; Fuchs & Fuchs, 1998; Gersten et al., 1995; Gersten et al., 1997; Jenkins & Leicester, 1992; Klingner, Vaughn, Hughes, & Arguelles, 1999; Scanlon, Deshler, & Schumaker, 1996; Vaughn et al., 1998). Most studies that contributed to this knowledge are of a brief duration. The NRP (2000) found few studies that went beyond a single year. This was evident even when high levels of support were provided (El-Dinary et al., 1994). This
suggested that personal qualities and attributes of teachers might also need to be considered in establishing effective graduate experiences. These variables may impact upon the project’s success, as one’s ability to be innovative and differentially engage in a professional capacity with research based projects over a length of time may be a factor worth investigating further.

Nuthall (2004) proposed an explanatory theory that links research and teaching assertions. He suggested the RTP gap may be bridged if research provides continuous, detailed data on individual experiences, analyses changes, skills, beliefs and identifies and responds to real time interactive relationships. This purported the need to investigate whether the factors and features of a teacher education course are replicated in respective school based settings.

The consistencies in the teacher education research to practice literature indicated that research alone could only provide a road map to practice. Suggestions that attention should be given to organizational issues so that research based practices can be sustained over time warrant additional investigation (Miller et. al., 2005). For the RTP gap to be reduced a need exist to incorporate empirically derived educational practices into the instructional repertoire of educators (Grima-Farrell, Bain & McDoaugh, 2011; Foegan et.al., 2001), as teacher knowledge and context are important to conceptualizing the relationship between research and practice (Malouf et.al., 1995).

Reducing the research to practice gap is said to be possible, when educators are informed and actively involved in the process (Grimes and Tilly, 1996). Although significant challenges do exist, the collection of research to practice literature highlights that well designed teacher education programs, which are collaborative, coherent, responsive, provide support and
feedback on multiple levels can positively support research efforts in practical applications (Darling-Hammond, 2006b; Francis, 2002; Gunstone & Northfield, 1993). These assertions reflected a need for additional investigation through collaborative university and school partnerships to reduce the research to practice gap (Russell et al., 2001; Bates, 2002; Sullivan, 2002; Korthagen, 2004). Darling-Hammond (2005) suggests that teacher effectiveness is strongly linked to the preparation teachers receive. Therefore if schools and universities are collaboratively involved in examining factors that contribute to the research to practice gap, identified barriers may be overcome (Grimes & Tilly, 1996; Miller, et al., 2005). This work coincides with an increasing recognition of the capacity of teacher education as a locus for addressing the research to practice gap and calls for additional investigation utilizing specific RTP practice cases which share a common inclusive teacher education experience (Blanton, Griffin, Winn, & Pugach, 1997; Winn & Zundans, 2004; Gravani, 2007; Darling-Hammond, 2005).

Teacher education was a key factor in this research as each of the coordinators of the RTP projects under investigation shared the same graduate preparation program. Given that teacher education was a unifying factor across all six cases, it represented a key focus and created a central avenue for the investigation. In essence, this literature review was a pivotal part of the methodology as subsequent explanation and expansion components were dependent on the underpinning exploration of those factors asserted in the RTP literature. The review concluded with a synthesis within and across key RTP areas and a description of the role of the literature as a methodological frame for the study.
2.10. Literature review conclusion

While the discussion of RTP was extensive, there were few empirical studies specifically focused on the translation of RTP in inclusive education settings. This review integrated, in a narrative approach, the larger commentary and opinion literature with a small number of related research studies. It went further and investigated PD, TE, CSR and CBAM literature that informed RTP efforts. Major themes presented as ways to assist researchers and practitioners in reducing the RTP gap are presented in Table 2.3. These include the responsiveness of research, collaboration and support. This table presents the consistencies and expansion of asserted RTP factors from five bodies of literature across these identified themes. Overall, the research articles support the major themes identified in opinion papers and reflective essays. The initial RTP comments by Carnine (1997) and others including the importance of teacher contribution, trustworthiness, usability, accessibility of educational research and the need for consistent research findings are supported and expanded upon in later literature-based searches (Billups, 1997; Breslin & Buchanan, 2008; Capizzi & Fuchs, 2005; Carnine, 1997; Davidson, 2010; De Landsheere, Masoner, Masoner, Dickson, & Kida, 1981; Foegen et al., 2001; D. Fuchs & L.S. Fuchs, 1998; Grima-Farrell, et. al., 2011; Hall, 1978; Hall & Pratt, 1984; Hord, 1981; Horsley & Loucks-Horsley, 1998; Kornblet, 1997; Lloyd et al., 1997; Malone, 1984; Malouf & Schiller, 1995; Miller et al., 2005; Miretzky, 2007; Pratt, Thurber, Hall, & Hord, 1982; Rutherford, 1986; Sydoriak & Fields, 1997). Other intervention research raised an awareness of the need to be responsive to organisational demands, the need to display tolerance for initial implementation difficulties and the importance of recognising accomplishments and encouraging
feedback on multiple levels (Hargreaves, 2007; Hasbrouck, Woldbeck, Ihnot, & Parker, 1999; Miller et al., 2005).

Researchers have sought to establish long-term collaborative partnerships with schools as a way to facilitate change and enhance sustainability (Abbott et al., 1999; El-Dinary, Pressley, Coy-Ogan, & Schuder, 1994; Klingner et al., 1998; Schumm & Vaughn, 1995). Such partnerships have promoted deeper involvement from teachers and included some form of ongoing support from the project implementation team after the initial instruction in research-based practices had taken place.

The TE literature indicates that additional attention should be paid to organisational issues so that research-based practices can be sustained over time (Miller et al., 2005).

The need to incorporate empirically derived educational practices into the instructional repertoire of educators has also been presented as a way to reduce the RTP gap (Foegen et al., 2001). As a result, teacher knowledge and context are important to conceptualising the relationship between research and practice making classrooms more responsive to all students (Malouf & Schiller, 1995).

Reducing the RTP gap is said to be possible when educators are informed and actively involved in the process (Grimes & Tilly, 1996). Although significant challenges do exist, the RTP literature highlights that well-designed teacher education programs, which are collaborative, coherent, responsive to stakeholder needs, and provide support and feedback can positively support research efforts in practical applications (Darling-Hammond, 2006b; Francis, 2002; Gunstone & Northfield, 1993). These assertions reflect a need for additional investigation through collaborative university and school partnerships to reduce the research-to-practice gap (Korthagen, 2004). Darling-Hammond (2005) suggested that teacher
effectiveness is strongly linked to the preparation teachers receive. Therefore, if schools and universities are collaboratively involved in examining factors that contribute to the research-to-practice gap, identified barriers may be overcome (Grimes & Tilly, 1996; Miller et al., 2005). This work coincides with an increasing recognition of the capacity of teacher education as a locus for addressing the research-to-practice gap. It calls for additional investigation utilising specific RTP cases that share a common teacher education experience and address the diversity of student needs (Blanton, Griffin, Winn, & Pugach, 1997; Darling-Hammond, 2005; Gravani, 2008; Winn & Zundans, 2004). Collectively, researchers have described models used to involve practitioners in the development, implementation and maintenance of empirically validated interventions (Abbott et al., 1999; El-Dinary, Pressley, Coy-Ogan, & Schuder, 1994; Vaughn et al., 1998; Vaughn et al., 2000). Others have compared variations in the intensity of professional development programs and described models used to deliver research-based education to teachers (Darling-Hammond, 2005; Schumm & Vaughn, 1995). Those researchers have focused their efforts on working more collaboratively with practising teachers to improve the trustworthiness, accessibility, usability, attractiveness and responsiveness of research.

This review yielded a cross-section of relevant guiding information on ways to bridge the RTP gap. These areas of review fell broadly from theory-to-practice assertions that claim to impact upon the transition of research to practice. The initial investigation included RTP literature, which then led to an examination of PD, TE, CSR and CBAM literature. As a result, the RTP factors identified three key RTP themes: responsiveness of research, collaboration and support. The review provided an integrative account of those factors that can promote RTP efforts, which can assist
in making our classrooms more inclusive. These factors can be addressed more deeply through the implementation of much needed intervention research focused on translating research into practice in applied settings.

This exploration of literature formed the initial phases of the response to calls for additional research into the RTP and linking school based and university based efforts. The results of this literature search informed the method section of this investigation. The literature predicated the research questions and consequently the progression of the research and tool development. Significant areas of literature that yielded relevant guiding information on ways to bridge the research to practice gap were identified. These areas of review fell broadly from theory to practice assertions that claimed to impact upon the transition of research to practice. As the initial investigation included RTP literature, which led to PD, which led to TE, which led to CSR that led to CBAM literature, this study incorporated knowledge from five linked RTP areas. This provided a broader knowledge base that planned to assist in a deeper comprehension of the factors that impacted upon the transition of research to practice. In brief, this base of knowledge was used to frame the methodology employed in the study.
Chapter 3. Methods

3.1. Introduction

This chapter restates the purpose of the study and outlines the methodological approach selected to address the research questions. It begins by broadly defining case study in order to locate the placement of this research within this specific methodology. The types of case study and related approaches that were used to guide the design decisions are also presented. A definition of comparative case studies with related strengths and limitations precedes the brief introduction of Yin’s (1994) and Fraenkel and Wallen’s (2006) features of comparative case study. Elements of both approaches were used to define the operational pathway of this case study design. A replication logic is introduced to ensure consistency in implementation. This is followed by the data collection methods, analysis and validity techniques employed to gain a deeper understanding of the factors that contribute to narrowing the RTP gap. The chapter concludes with a procedures section that provides specific participant details, participant researcher bias, site, research design, data collection and analysis processes follow this case defining preface.

3.2. Overview and Purpose of the Study

A multiple or collective case study approach was used to investigate the implementation of inclusive education reforms in six Western Sydney school settings. The intent of this research was to ascertain those factors that influenced the translation of research into practice. This was done by examining six discrete efforts to implement research-based inclusive educational practices across a range of school settings. Program implementations ranged from Kindergarten to a high school
education experience. The subject of the individual cases included literacy, peer
tutoring, spelling and in school staff development. The six cases represented a 60%
sample of students who participated in an education system funded Masters graduate
teacher professional experience program to promote inclusive education in the
sector.

Part of the experience involved designing and implementing an applied inclusive
education intervention in their schools. The six students who completed the graduate
level subject were required to conduct an independent research project. The
research-based project was to specifically address the needs of their individual
settings. This task was the culmination of a two and a half year university based
Masters course that was collaboratively designed using elements from
comprehensive and self-organizing school reform efforts.

The final subject (ESS527) within this Masters course was the capstone in the
program. The subject required students to implement an applied program in their
schools using a research-based practice drawn from prior learning in the course. The
course and subjects were designed using a theoretical framework derived from
research on complex systems (Pascale et.al, 2000) and developed by Bain (2007).
Bain (2007) identified six principles of self-organization these include simple rules,
embedded design, similarity at scale, feedback, dispersed control, and schema
applied to course design. The theory represented a response to concerns described
in the teacher education literature and called for coherent theory driven teacher
preparation programs (Gore et al., 2004, Tomlinson, 2001; Morrison, 2002; Davis &
Sumara, 2006).
This project intended to study six cases to build on prior knowledge, instantiate the existing literature and expand the comprehension of the factors that both enabled and interfered with the successful translation of research into practice in inclusive education. This included examining the extent to which the factors identified in the existing research in the area exerted an influence in the cases; explained the influence of those factors and then expanded on existing research by investigating other possible sources of influence on the RTP dimensions of the cases.

A multiple case study methodology was used to investigate whether the innovations were sustained over time and what factors contributed to their status. An ex post facto causal-comparative research design was employed to study the cases. Each educational site was the subject of an individual case and the use of the multiple case study method, allowed for the in-depth investigation of multiple cases within a range of applied educational setting. This multiple case study design catered for the investigation of the RTP phenomenon through extensive description and content analysis. The evidence from multiple cases is considered more solid and compelling than the investigation of single case (Herriott & Firestone, 1983; Yin, 2003), enhancing the articulation of why the experiences occurred as they did.

Semi-structured and open-ended one to one interviews, focus groups, a survey and analysis of permanent product records are methods that were employed to undertake an in depth study of each case. Collected results were analyzed and compared across cases. The questions were divided into three phases that represented the phases of the study. The first phase being the exploration phase, examined literature and initial teacher perceptions for relevant RTP factors. The second explanatory phase used these literature based assertions to develop survey and interview questions.
Participant perspectives were collected as a response to these questions to explain the factors that were detrimental or beneficial in addressing the purpose of this complex case in real life interventions. The final expansion phase identified other RTP factors that emerged as a result of this investigation. The data collection methods were used to answer the following overarching question by responding to exploration, explanation and expansion research questions (see figure 3.2 for additional sub questions):

3.2.1. **Overarching Research Question**

What are the factors and relationships between them that contributed to the status of research-based projects in inclusive education settings?

3.2.2. **Exploration phase questions.**

What factors that have been identified in previous literature contribute to sustaining RBP in inclusive education settings? How have these factors been identified? To what extent have these factors been validated through empirical research? What are the existing key RTP gap contributors identified through initial teacher perception? How do they compare to existing literature?

3.2.3. **Explanation phase questions.**

How do factors identified in the cases contribute to the status of RBP in inclusive education settings? In what ways do those factors exert an influence?

Additional question established after the analysis of the data collection through the exploration and explanation phases- How have the identified relationship between factors exerted an influence on the practical application and sustainment of the projects?
3.2.4. Expansion phase questions.

What factors, other than those identified in the exploration and expansion phases, contribute to the status of RBP in inclusive education settings?

*Additional question established after the analysis of the data collection through the exploration and explanation phases- What were the differences and consistencies in the relationships between the RTP factors that contributed to the status of the projects that were identified by the research participants?*

3.3. Case Study Research Design

Case study design falls broadly within the theoretical underpinnings of qualitative research and has been selected for this research study. According to Creswell (1998) a case study is defined as an exploration of a “bounded system” or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context. Some consider “the case” as an object of study (Stake, 1995) while others considered it a methodology (Merriam, 1998). Creswell (1998) described the bounded system as being bounded by time and place, and it is the case being studied – a program, an event, an activity, or individuals. It allowed for an important example to be “… studied extensively and varied data are collected and used to formulate interpretations applied to specific cases (e.g., a particular school board) or to provide generalizations” (Fraenkel & Wallen, 2006, p.13).

Mirriam’s (1998) notion of a bounded system refers to each of the six research projects as individual systems. Bounded within each unit are the people, experiences and all details relevant to that one project and unique setting. Huberman and Miles
(2002) suggested that this strategy focuses on the understanding of case dynamics. “It is crucial to have understood the dynamics of each case ......without that superficiality sets in” (Miles and Huberman, 1994, p. 207). Case dynamics referred to specific details that pertained to each case and the interrelationships between them. According to Mishler (1986) and Miles and Huberman (1994) an understanding of the synthesis of these details and relationships in each case is required prior to effective cross case analysis.

In brief, this study is an investigation of the dynamics within each case in order to gain specific details prior to any cross case analysis. The survey, interviews and permanent product records provided details that were case specific. Yin’s (1994) causal link proposal was investigated in “real life interventions”, to explore, explain and expand the knowledge of factors that contributed to the status of each of the six research based projects over a three year period across multiple settings. Given the need for an explanation of real life complex causal links and an understanding of specific case dynamics within and across each bounded system, case study design was selected as the methodology for this investigation.

3.4. Types of Case Studies

The following section provides a brief overview of the types of case study design that influenced the present research design. The diversity of case studies within the flexible parameters of qualitative research has been used to unpack the elements within and across each case. The works of Yin (1994), Datta (1990) and Fraenkel & Wallen (2006) have influenced this causal comparative design framework and elements of this work are presented. This section begins with a brief account of the
general uses and types of case study, prior to introducing the research framework for this investigation.

A case study approach has been used widely in medical, business and legal investigations. “In general, case studies are a preferred strategy…. when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real life context” (Yin, 1994, p.1). Case study research has been employed in the field of education to study students with special needs into the mainstream, the use of various technologies in educational settings, evaluating comprehensive reforms and assessing the impact of Legislation on education (Janney & Snell 1997: Armstrong, Galloway, & Tomlinson 1993; Edelman & Cloninger, 1994; Gilbert, 1998; Heward & Lloyd-Smith, 1990; Houck & Rogers, 1994; Yin & Davies, 2007).

Broadly speaking this qualitative study is influenced by elements of the types of case studies described by Yin (1994), Datta (1990) and Fraenkel & Wallen (2006). Datta (1990) categorizes case studies into six groups, which include illustrative case studies, exploratory case studies, critical instance case studies, program implementation case studies, program effect case studies and cumulative case studies. Features of Datta’s (1990) program effects case study design provided a lens to investigate the impact of programs and provide inference about reasons for success or failure. Datta’s (1990) features that influenced this design included the use of methods such as examining literature to identify specific findings or assertions. Case study investigations are then used to maximize the usefulness of this information.
Stake (cited in Fraenkel & Wallen, 2006) identified three types of case studies, intrinsic, instrumental and multiple. In an intrinsic study the researcher is specifically interested in understanding a situation or an individual. Through detailed description, the researcher seeks to understand the case in all parts, including its inner workings. Intrinsic case studies are often used in exploratory research in which the aim is to understand more about some little known phenomenon by studying it in depth. Instrumental case study is interested in more than a particular case. The researcher investigates a particular case as a means to a larger goal. They are interested in drawing conclusions that apply beyond a particular case. Multiple case studies involve a number of cases being investigated at the same time as part of one overall study to generate the detailed description within and between cases. This research is an example of a multiple case study design as the six cases were investigated concurrently as part of one RTP investigation.

Yin (1994) provided a specific description of six types of case studies identified (see table 3.1). He suggested that exploratory, descriptive and explanatory studies can exist within single and multiple case study designs. One of the major variables between these six different design types is the number of cases employed, and the functions they serve. “Nevertheless, this does not imply that the boundaries between the strategies - or the occasions when each is to be used - are always clear and sharp. Even though each strategy has its distinctive characteristics, there are large areas of overlap among them” (Yin, 1994, p.4). Yin (1994) described descriptive cases that require a descriptive theory that must cover the depth and scope of the case under study. Case studies have additionally been loosely defined in terms of the
disciplinary orientation or by function. Within the disciplinary orientation one might find ethnographic, historical, psychological, or sociological case studies.

Table 3.1

Yin’s (1993, p.5) six different types of case studies

<table>
<thead>
<tr>
<th>Single case</th>
<th>Single case</th>
<th>Single case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploratory study</td>
<td>Exploratory study</td>
<td>Descriptive study</td>
</tr>
<tr>
<td>Multiple case</td>
<td>Multiple case</td>
<td>Multiple case</td>
</tr>
<tr>
<td>Exploratory study</td>
<td>Exploratory study</td>
<td>Descriptive study</td>
</tr>
</tbody>
</table>

In the present study Datta’s (1990) investigation and verification elements of the program effects case study design are linked with Yin (1994) and Fraenkel & Wallen’s (2006) multiple case study design. These perspectives have been linked to explore existing literature to identify RTP factors, their sources, potential strengths and gaps. Yin’s (1994) exploratory phase of case study research was employed through the examination of literature for relevant factors prior to the exact definition of the research questions. Some may consider this type of investigation as a prelude to larger social research. Features of Yin’s (1994) explanatory phase were used to build on factors identified in the exploratory phase (review of the literature). During the explanatory phase the in depth analysis elements of causal comparative studies allowed the factors identified through the literature review to be investigated across in multiple cases. These features were beneficial in addressing the purpose of this complex case in real life interventions. A final expansion phase was incorporated to identify any other RTP factors beyond those identified in the literature that emerged as a result of the empirical investigation of the six cases.
The dominant thread that ran through this study was the need to address the lack of research that provides understanding of what factors make research based projects sustain and scale in practical applications. Fraenkel & Wallen’s (2006) and Yin’s (1994) multiple case study designs provided organizational scaffolds that aligned with the nature of this investigation. Yin’s (1994) design directly forged links between the exploration and explanation phases of the research questions, to the appropriate data collection and analysis required to answer them (see figure 3.2) This was important in the present study which has descriptive, exploratory and explanatory purposes.

3.4.1. Causal comparative case study.

The following section briefly defines causal comparative case study, outlines the strengths and limitations of the approach and presents two causal comparative perspectives. Fraenkel & Wallen’s (2006) key features of causal comparative research represent a more quantitative approach, whilst Yin’s (1994) presents a detailed qualitative perspective. Although this study is qualitative, knowledge and use of complimentary features of both approaches provided a solid base to guide the operational pathways of this research, through the descriptive, exploratory, explanatory and expansion phases. This approach aimed to address the “separate mindsets stem that from the classical view of research as being either rigorous or relevant” to determine “what works in education, given that researchers tend to emphasize basic research, rigor, internal validity, and evidence-based practices, whereas practitioners tend to value applied research, relevance, external validity, and practice-based evidence” (Smith, Schmidt, Edelen-Smith, & Cook, in press, p.1).
3.4.2. Definition.

Bogdan and Biklen (2007) described comparative studies as “two or more cases that are done and then compared and contrasted” (Bogdan and Biklen, 2007, p.69).

Fraenkel and Wallen (2006) also noted that causal comparative research could also be referred to as ex post facto research, as it provides a means to determine the cause for, or consequence of, existing differences in groups of individuals.

Given the intent of this investigation in its three phases, features of Fraenkel and Wallen’s (2006) quantitative and Yin’s (1994) qualitative approaches are combined to provide an in depth understanding of the project status of each case in retrospect. Elements of both approaches provide a diverse approach from different perspectives.

This was done through employing Yin’s (1994) five components of research design with Fraenkel & Wallen’s (2006) key features of causal comparative designs. The use of features of both approaches to explore, explain and expand upon RTP factors provided an insight through differing lenses. Figure 3.2 below represents the operational pathways derived from the merger of elements of both approaches. This visual representation provided a scaffold for the purpose of this research design. It supports Yin’s (2003) suggestions that case study research can be influenced by the emulation of the scientific method. It is followed by a brief description of Yin’s (1994) and Fraenkel & Wallen’s (2006) key features of causal comparative designs. This outlines their original intentions which were utilized to provide a lens into the approach, sequence, methods and logic underlying this merged research framework.

Figure 3.2 Operational pathway using elements of Yin’s (1994) key features of case study design and Fraenkel and Wallen (2006)
This operational pathway displays Yin’s (1994) influential components in bold font and Fraenkel and Wallen’s (2006) in italic font. The components are briefly outlined below to add clarity to the flow in which they are linked to meet the intersecting needs of this research.

3.5. **Five Components of Research Design (Yin, 1994)**

Yin’s (1994) components of research design include: a study’s questions, its propositions, its unit(s) of analysis, the logic linking the data to the propositions, and the criteria for interpreting the findings. These components are described below.

3.5.1. **A study’s question.**

Study Questions in this research pertain to the factors that contributed to the status of research based practices at the implementation and subsequent phases. The
overarching “what” question outlined at the start of the chapter is exploratory in the initial program phase, then moved into an explanatory approach as the researcher analysed the quantitative survey data. The following phase sought additional “how” explanations through more qualitative methods, before any expansion on RTP phenomenon proposals were investigated.

3.5.2. A study’s propositions.
Study Propositions presented in figure 3.3 directed attentions to factors that were examined in the scope of this study. The specific propositions were selected in an attempt to ensure this case study remained within feasible and manageable limits.

3.5.3. A study’s unit(s) of analysis.
Unit of Analysis relates to the fundamental problem of defining a case. Throughout this research the unit of analysis was represented by the unique variables of each case.

3.5.4. A study’s linking data to propositions and criteria for interpreting findings.
Linking data to propositions, and criteria for interpreting findings represented a data analysis step in case study research (see figure 3.3). Yin (1994) described proposition formation as a tool or a way of keeping the investigations on track. He advocated that a set of proposals (reflective of research questions) have the capacity to directly link research questions to data collection and analysis. Figure 3.3 displayed the use of this tactic specifically for the purpose of this research as it linked Yin’s (1994) propositions, unit(s) of analysis and logic, linking the data to the propositions components as a tool to streamline the intersecting purpose of this investigation.
### Table 3.1
Overview linking Yin’s (1994) components of research design including propositions, unit(s) of analysis and logic linking the data to the propositions

<table>
<thead>
<tr>
<th>Propositions</th>
<th>Data Collection using Mixed Methods</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploration: Key components to reducing the research to practice gap have been identified through the literature commentary pieces and intervention research.</td>
<td>An investigation of literature was conducted initially to identify claimed key contributors. Features of these claims were examined and used to develop specific research questions and data collection tools. A two-phased survey was used to investigate specific details pertaining to individuals, their setting and statistical program data. It was used to describe the case, primarily through the examination of factors. More qualitative information regarding process, events, structure and outcomes were sought through the use of open-ended and semi structured interviews, permanent product records and focus groups, which were used to</td>
<td>Linking questions, data, propositions through qualitative and quantitative paradigms as presented by Yin (1994) and Fraenkel and Wallen (2006) Through directly linking questions and propositions derived from literature, this research analysis sought to use collected data through the employment of mixed methods from a spectrum of research based practical applications to verify identified claims.</td>
</tr>
<tr>
<td>Explanation: Lack of empirical evidence exists in the key RTP identifiers. RTP knowledge gained from PD, TE, CSR and CBAM efforts identified major themes. These include support collaboration, research based, scalability and responsiveness of research. These assertions need to be validated, explained and expanded to gain an in depth understanding of these factors in RTP. Empirical evidence that examined specific research to practice cases was employed to add rigor to</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Fraenkel and Wallen’s (2006) more quantitative perspective of causal-comparative research included problem formation, sample, instrumentation and design. Features of this perspective were merged with Yin’s (2003) qualitative approach through case study design (see Figure 3.1). The six case studies selected all experienced the same graduate teacher training, however it was expected that projects would vary in their sustainability status. This causal comparative approach investigated the causes of the differences in project status that already existed. Through this design the knowledge from each set of experiences formed a converging and complimentary base, which was used to explain factors through the assertions gained from prior RTP research.

Figure 3.1 provides a projection of the studies direction, using Yin’s (1994) 2x2 matrix of four major case study designs, his proposal of the five key components of research design (Yin, 1994). This qualitative study that was predominantly influenced by Yin’s (1994) work was strengthened by the use of features of Fraenkel & Wallen’s (2006) perspective on causal comparative research. Given this case study dealt with a logical problem not a logistical problem, the main purpose was to ensure that the evidence collected addressed the initial research questions in an empirically validated fashion.
In brief, this study merges Yin (1994) and Fraenkel & Wallen’s (2006) differing, yet complimentary causal comparative approaches in the following way. RTP concerns were identified (problem formation). Exploration and confirmation of these assertions and possible solutions were then identified through published pieces. Questions and proposals were formulated, with the data collection methods and analysis decisions being directly linked to these questions and proposals. The interpretation of findings explained and expanded upon this RTP phenomenon at the centre of this inclusive education investigation.

The following section describes a replication design, within the broader case study approach. It was employed as a means of maintaining consistency in and across the investigation of each case. Using this repeated operational approach in the same manner aimed to enhance the quality and rigor as guidelines were replicated to ensure regularity. Given that this study employed causal comparative case study designs to address the purpose of this research, the following replication details are included to enhance uniformity in approach.

3.6. Replication Within the Multiple Case Study Design

The six case studies followed a “replication logic” derived from the work Yin, Bateman and Moore (1983). The replication of data collection methods, sequence, analysis and approach was consistent across all six cases. This consistency allowed the use of multiple cases to be “considered more compelling, and more likely to lend themselves to generalisations” (Fraenkle and Wallen, 2006, p.439). The cases ranged from infants to secondary programs conducted in inclusive educational settings. The subjects of implementations ranged from literacy programs to peer
tutoring initiatives. It was expected that this range of case would drive responses from different perspectives, allowing the analysis of differences and commonalities. The use of this replication logic approach guided the replication of data collections tools and process with differences and convergences being identified on analysis and being treated individually. All six cases were considered separate bounded units with convergent evidence being sought for each RTP factor. A summary of each case indicated how and why factors contributed to the individual project status at annual points. Analysis and conclusion occurred within each case then across all the six cases, as a high degree of certainty of the factors that contributed to the success, sustainment or extinction of research based practices was sought.
Figure 3.3
Replication logic has been derived from the work Yin, Bateman and Moore (1983)

Design Phase | Single Case Data Collection and Analysis | Cross Case Analysis

- Exploration, Explanation, Expansion and validation of literature based RTP assertions
- Data collection tools included; survey, interviews, focus groups and permanent product record
- Investigation themes included; Teacher education programs, support, responsiveness of research

6 out of 10 of a total graduate teacher cohort selected as individual cases

Conduct case study Number 1

Conduct case study Number 2

Conduct case study Number 3

Conduct remaining case studies 4-10

Analyse individual case data.

Draw cross case conclusions, that identify, address any differences related to the content of the cases.

Write cross case report on the factors that contribute to the status of RBP in practical applications.

Investigation themes included; Teacher education programs, support, responsiveness of research
3.7. **Validity, Reliability and Trustworthiness in Case Study Research**

As this research cited approaches from differing research perspectives, terms from both paradigms are briefly identified. Data collection methods are described and broad overviews of terms from relevant perspectives are presented. Primarily case study research falls within a qualitative paradigm, yet a broad understanding of quantitative perspectives added a slightly more diverse perspective to purpose of this case study. Campbell’s (1975) view on logical positivism is presented to frame this selected qualitative paradigm which was informed by features of experimental science for this exploratory, explanatory and expansion investigation. The selected validity tactics will be outlined to present a rigorous case study design.

### 3.7.1. Reliability and validity.

Qualitative researchers view validity and reliability concepts very differently to quantitative researchers (Golafshani, 2003). Reliability in terms of qualitative work corresponds to the notion of dependability (Lincoln and Guba, 1985). Reliability refers to a dependable way of information elicitation that would “generate understanding” (Stenbacka, 2001, p.551). Joppe (2000, as cited in Golafshani, 2003) described validity from a quantitative paradigm as a way of determining whether research truly measures what was intended or how truthful the results are.

Enthusiastic discussion amongst some qualitative researchers exists about the relevance of these terms in qualitative research. Greater consensus is present about the need for a qualifying check being required to add quality to research efforts (Freankel & Wallen, 2006; Golafshani, 2003). Some authors suggest that reliability, validity, trustworthiness, quality and rigor are important to research in any paradigm (Yin, 1994, Golafshani, 2003).
Yin (2003) states that in case study design “the goal of reliability is to minimise the errors and biases in a study” (Yin, 2003, p.37). The use of a case study protocol, case study database, the outlined replication approach and use of triangulation require procedures to be clearly documented in detail. These tactics were employed to address these reliability concerns. Through identifying biases and making steps as operational and specific as possible, another researcher could repeat the procedure and arrive at the same conclusions (Patton, 1990; Yin, 1994). This systematically followed approach uses the carefully planned operational pathway which built on literature assertions and contingencies to conduct a causal comparative investigation of RTP factors.

3.7.2. Trustworthiness.

Trustworthiness, credibility, confirmability and dependability are the concepts generally offered to represent a logical set of statements in case study design (Lincoln & Guba, 2000; U.S. General Accounting Office, 1990; Yin, 1994). Trustworthiness is a term that is used in qualitative research that encompasses both reliability and validity, although they are treated individually in quantitative research (Golafshani, 2003). Maxwell (2004) referred to credibility as the correctness of a description, conclusion, explanation or interpretation. Confirmability refers to the degree to which the results could be confirmed or corroborated by others. The traditional quantitative view of reliability is based on the assumption of repeatability. Lincoln and Guba (2000) introduced dependability as a parallel to reliability in qualitative research. They suggested that a notion of dependability focused on the researcher’s responsibility for ensuring the research process was logical, traceable and documented.
Examination of trustworthiness is critical to ensuring reliability in qualitative research (Seale, 1999), and reliability can be viewed as a consequence of validity (Patton, 2001). Some qualitative researchers have developed their own concepts of validity and use what they consider more appropriate terms, being trustworthiness, quality and rigor (Lincoln & Guba, 1985; Mishler, 2000; Seale, 1999; Stenbacka, 2001). In qualitative research the use of these concepts are essential to the study being viewed as trustworthy and beneficial.

### 3.8. Logical Positivism

Validity and reliability are briefly compared and contrasted from quantitative and qualitative perspectives in the work above. From a positivist perspective valid knowledge is testable and based on empirical observation of reality. Wainer and Braun (1998) described reliability in terms of whether results are replicable and validity in terms of whether the means of measurement are accurate and whether they are actually measure what were intended.

Yin (2003) introduced logical positivistic views as a way of validating inferences from events outside the laboratory while at the same time retaining the goals of knowledge shared with laboratory science. Elements of this strategy were referred to through this case study (Lincoln & Guba, 2000; Yin, 2003). Yin (2003) suggested that logical positivism is a way in which case study research can be influenced by the emulation of the scientific method. Evidence is presented through the practical requirements of the operational pathway that used the following validity checks to contribute to scientific evaluation.

Yin (1994) presented four validity/reliability tests used to establish the quality of empirical social research. These four validity tests presented in figure 3.5 were used
at the design and subsequent phases of this research. They included construct validity, internal validity, external validity and reliability and have been adapted to enhance the quality, truthfulness and rigor of this design.

Analysis of existing literature was used as a frame for the collection of empirical data. Analysis and conclusions were based on the data collected from this framework. Building and confirming social field RTP knowledge in this way aimed to contribute to an understanding, based on a variety of theoretical, intellectual and social explorations and explanations (Denzin & Lincoln, 2008). The credibility of this work is dependent on the credibility of the high quality of analysis and data collection through rigorous methods (Golafshani, 2003; Patton, 2003). Reliability, validity, rigor and triangulation from a qualitative perspective through the use both qualitative and quantitative methods to establishing truth and empirically validate assertions are proposed. Yin’s (1994) work was used to frame this analysis due to its completeness and ability to pay attention to validity and reliability from both diverse perspectives.

The purpose of this research is embedded within a qualitative case study design. Multiple ways of determining truth from are proposed to assist in illuminating and validating RTP factors. Table 3.2 outlines and defines the tactics applied with a cross reference to the test criteria and phase of implementation.
Table 3.2
Case Study Validity Tactics (Adapted from Cosmos corporation, cited in Yin, 1994)

<table>
<thead>
<tr>
<th>Test</th>
<th>Tactic</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct validity</td>
<td>The development of an operational pathway which merges the work elements of causal comparative research from both qualitative and quantitative perspectives.</td>
<td>Literature review</td>
</tr>
<tr>
<td>Trustworthiness</td>
<td>Investigation of literature to develop an operational set of measures that encourage objective judgements in data collection.</td>
<td>Data collection phase</td>
</tr>
<tr>
<td></td>
<td>Using multiple sources of evidence including permanent product records, interviews, focus groups and surveys.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Establishing a chain of evidence (Yin, 1994), whereby an external observer-the reader of the case study can follow the derivation of evidence from the research questions to the study conclusions in either a forward and reverse direction. Yin (1994) describes this principle to be based on a notion that is similar to criminal investigations. Both tactics will</td>
<td></td>
</tr>
</tbody>
</table>
be used to establishing correct operational measures for the RTP factors being investigated.

<table>
<thead>
<tr>
<th>Internal validity</th>
<th>Through pattern matching we aim to establish a causal relationship.</th>
<th>Design phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trustworthiness</td>
<td>Researcher bias acknowledgement</td>
<td>Data analysis phase</td>
</tr>
<tr>
<td>Establishing a causal relationship whereby certain conditions are shown to lead to other conditions.</td>
<td>Research Design phase</td>
<td>Used in explanatory rather than exploratory phase</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External validity</th>
<th>Replication logic will be utilized to establish consistency in approach both within and across each bounded system. It will also provide a domain to which the study’s findings can be generalized. Use of six cases to generalize findings to theoretical assertions, to explore, explain and expand RTP knowledge. Ultimately providing a vehicle for examining other cases and providing a significant contribution bridging the well documented research to practice gap.</th>
<th>Research Design phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trustworthiness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishing where findings can be generalized beyond the immediate case</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Reliability/Dependability

Demonstrating that the operations of a study can be repeated with the same results/ minimize errors and biases.

Method and data triangulation

Through the use of the case study protocol and the development of a case study data base, data collection operations can be demonstrated and repeated to achieve the same results (Yin, 1994).

Clarify researcher bias.

<table>
<thead>
<tr>
<th>Reliability/Dependability</th>
<th>Method and data triangulation</th>
<th>Design Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Through the use of the case study protocol and the development of a case study data base, data collection operations can be demonstrated and repeated to achieve the same results (Yin, 1994).</td>
<td>Design Phase</td>
</tr>
</tbody>
</table>

This table identifies the construct, internal and external validity and reliability as four validity tactics that were used in this study. These validity tactics commenced at the design phase and continued to be conducted throughout the study. The outlined construct validity tactics are identified in the operational pathway merging both qualitative and quantitative perspectives to add depth to the intersecting purpose of this case study investigation. This operational direction allowed for the development of a literature based set of measures, from previous research and commentary pieces to create objective tools and judgements in data collection. In order for construct validity to occur, the specific RTP gap contributing factors selected must have reflected the specific RTP gap factor information required. The use of multiple sources of evidence was used to encourage convergent lines of inquiry. See figure 3.6 which indicates the convergence of sources of evidence to substantiate RTP facts. This approach was applied to each of the six case study exemplars.
Throughout this research data was collected in the exploration phase through the investigation of literature. This was then used in the explanation and expansion phases to provide an investigative framework for multiple data sources and analysis including the survey, interviews, permanent product records and focus groups. These multiple data collection methods assisted in controlling bias (Golafashani, 2003) and were used in a mix of triangulation techniques to establish rigor.

Davidson & McAllister’s (2002) use of thick description provided detailed extracts to ensure authenticity was utilized to substantiate my understanding of data with participants.

Internal validity tactics were to be employed in the explanatory phase to investigate causal relationships. By establishing how factors contributed to project status, an explanation of why various factors contributed to the success or failure of research-based projects in practical applications were identified. As this case study is an ex post facto design, concerns over internal validity, could have been extended to the
broader problem of making inferences, as an event could not be directly observed. The analytic pattern matching tactic described by Yin (1994), use of existing evidence of program implementation, integrity, findings and status were ways of addressing whether these inferences were correct. Given this design had anticipated these concerns, it had begun to deal with the inference generation problem and therefore the problem of internal validity.

3.9. **Triangulation**

External validity deals with identifying whether the study’s findings are generalizable beyond this study. This has been a concern in conducting case studies, as critics state that studying a single case offers a poor basis for generalisation. The use of data and method triangulation has been selected to address these concerns.

The use of triangulation was selected as a source of external validity as it presented a way of crosschecking information and conclusions through the use of multiple procedures of sources. When the different procedures or sources are in agreement you have corroboration (Johnson, 1997). It is equally important in triangulation to use the same procedures to detect discontinuity. The use of triangulation “strengthens a study by combining methods” (Patton, 2001, p. 247). Triangulation was conducted through the use of the case study protocol, tightly geared to test RTP assertions. The range of data collection methods sought converging lines of inquiry to triangulate evidence to ensure a rigorous, trustworthy, reliable and valid investigation was conducted. The triangulation of methods enabled causal comparative analysis to check the explanation of findings generated by the various data collection methods described. Both divergent and consistent findings provided
an increased understanding of the complex nature of this phenomenon (Patton, 2002, p.559).

The triangulation of data sources was also be employed as this approach enabled consistency of information collected at different times and with different participants to be checked. Data from individual interviews was triangulated with focus group and survey data. If this triangulation did result in consistency or commonalities, explanations for differences lead to further understanding of the phenomenon, giving increased credibility to results (Patton, 2002). The use of methods and data triangulation strived to reduce bias and enhance reliability.

3.10. Participant Researcher

This section presents a definition of a participant researcher and identifies the strength and limitations of my participant researcher position as a participant within this study. Insider / outsider perspectives in relation to researchers as research participants are also be presented.

Through my role as Master’s cohort member and the desire to be included as part of the cohort in this study, I completed all data collection tools other than focus group participation. Through my cohort membership I am in a unique position of being able to view methods and data from both the researcher and participant perspectives. I have shared similar experiences with other participants and developed professional relationships with them. Bogdan and Biklen (2007) presented a participant/observer continuum. Given my role as the sole researcher and a participant I am defined as a participant researcher. With this position come practical considerations, such as researcher bias. Researcher bias is acknowledged and addressed through the use of
multiple sources of data collection, internal validity tactics such as the chain of evidence approach outlined in figure 3.5.

Glesne and Peshkin (1992) also referred to the role of “participant” as having the potential to become a trusted person with documentation and information access being more readily available. Dwyer and Buckle (2009) added to this perspective by introducing researchers as insiders and/or outsiders. The authors suggested that as an “insider” researchers could situate themselves within the research enhancing depth and breadth of understanding. Dwyer and Buckle (2009) proposed that an insider role status frequently allows researchers more rapid and complete acceptance by their participants. This added to openness and trust, which may have increased the quality of data gathered. Although efforts were required to eliminate researcher bias, advantages of this position included understanding firsthand how specific actions corresponded to words and outcomes, allowing me to understand responses more readily. Patterns of behaviour and actions became more readily evident as a relationship of trust may have motivated others to share details, which they otherwise may not.

As participant researcher I acknowledged that I commenced the study with preconceived ideas on RTP issues. Miles and Huberman (1994) acknowledged this concept by stating as researchers “we do have background knowledge” (p.17). It was through this related knowledge that we comprehend situations, issues, details about the complex phenomenon under investigation.

Given my awareness of the advantages and challenges of my participant researcher position, I addressed these challenges by completing the data collection tools prior to administering them to others. I had an independent person ask me the interview
questions. These were conducted prior to the other participant interviews to prevent my case results being influenced by others. I did not participate in the focus group activity in a participant’s capacity as other group members may have consciously or subconsciously expected me to lead the session. Focus group participants may have been less willing to offer suggestions or be altered by my responses or input. The increased Masters cohort sample for all other data collection methods had the capacity to build on prior knowledge in order to extrapolate and validate RTP themes. In brief an opportunity for participants to participate in a focus group without my participant input may have consolidated or expanded upon RTP themes, assertions and factors more effectively.

In summary the participant researcher position is identified and four tests presented above have been selected to enhance this research design quality. Through the use of diverse evidence sources, this research explored, explained, validated and expanded RTP assertions with a rich and extensive data collection and analysis effort using six case study exemplars. This logical positivist (Yin, 1994) approach provided a clear operational direction for the constructs of validity and reliability. This was outlined by researchers such as Fraenkel and Wallen (2006) and Wainer and Braun (1998) to complement concepts of trustworthiness, quality and rigor (Lincoln & Guba, 1985; Mishler, 2000; Seale, 1999; Stenbacka, 2001), through the utilization of Yin’s (1994) case study validity tactics.

3.11. **Strengths and Limitations of a Causal-Comparative Case Study Design**

Following is a description of the strengths and limitations pertaining to this research design.
3.11.1. Strengths

The exploration of existing literature guided the specific operational pathway through causal comparative design to address this studies purpose. This process has identified concerns and presented ways to address them. As such the present design utilized features of diverse approaches, within the flexibility of case study design to strengthen its approach as a result of previous experiences. Replication logic allowed for each case to follow the same operational pathways, using the data collection and analysis techniques. This encouraged consistency in approach across a spectrum of case perspectives, in search of differences or commonalities that resulted from examining RTP factors in practice.

The examination of multiple cases allowed more accurate conclusions about interorganisational factors, as contemporary events were measured when relevant behaviours could not be manipulated. There is a precedent as a number of multiple case study examples exist that provide an illustrative example of this approach (Yin and Moore, 1988; (Corcoran, Walker, & Wals, 2004; Roland, Daniel, Arnim, Alexander, & Michael, 2006; Stecker & Skinner, 2006).

Through employing a causal comparative case study approach researchers are able to deal with a full spectrum of evidence. This was considered advantageous for the purpose of this investigation, as it gave capacity for an in depth understanding of the factors that had contributed to the status of RBP’s over a three year period both within and across cases.

3.11.2. Limitations

Case studies are a relatively recent development in comparison to more experimental approaches. As a result claims that less guidance has led to some case study
investigations having insufficient precision and rigor (Creswell, 2003; Yin, 1994).

Descriptions such as “weak sibling among social science methods” (Yin, 1994, p.xiii) have criticized their applications. The use of increasing theoretical framework knowledge and the introduction of the various types of case studies has guided this design (Davey, 1991). Using existing literature to provide a scaffold can create increased focus to add essential rigor to the design (Guba, 1985; Yin, 2003).

Concerns regarding the lack of rigor exist in the use of single cases to make concluding generalizations (Creswell, 2003; Yin, 2003). Hamel et al (1993) and Yin (1994) have responded to these sufficient case number concerns by suggesting that relative sample size does not transform a multiple case into a macroscopic study, and that even a single case could be considered acceptable, provided it met the established objective. Procedures that positively contribute to these concerns now exist to assist case study researchers satisfy the three tenets of the qualitative method being describing, understanding, and explaining (Yin, 1989).

Increased time and resources in collecting and analysing multiple sources of data is required to gain a depth of understanding across multiple settings. These limitations have been considered; yet causal comparative case study remains suitable for this design as it allowed for factors to be retrospectively traced over time. The articulation and verification of why RTP factors occurred as they did, was sought through this comprehensive research strategy as it allowed for the in depth analysis required (Stoecker, 1991, as cited in Yin, 1994).

Freankel and Wallen (2006) highlighted two major concerns from a more quantitative perspective, being the lack of randomization and lack of control over threats to internal validity, as no manipulation of the independent variable was
possible. Fitzpatrick, Sanders & Worthen (2004) suggested that judgment or purposive sampling is successfully used in case studies where small groups are drawn to identify and explore particular issues. For the purpose of this research, six of the ten of the Masters cohort who graduated from the same course in 2008 have been selected as the sample to explore this RTP phenomenon. All six participants who shared the same graduate teacher experience were expected to devise a research based program specific to the needs of their setting.

Location threat as defined by Freankel and Wallen (2006) in experimental studies, referred to the concerns of data collection location and details differing in each case. These concerns were reduced as the same data collector collected data under the same conditions. Standardizing procedures to establish rigor minimized data collector bias.

3.12. Data Collection Approaches

This section outlines the use of mixed data collection approaches in the light of the exploration, explanation and expansion purpose of this investigation. Methods of data collection employed throughout this research are briefly introduced. A visual representation of each tool is presented with their respective strengths and limitations to highlight their position in the proposed operational pathway. A detailed description of each tool is following in the procedures section.

Five forms of data collection were employed throughout this research. These included; reviewing of literature, a two-part survey, two interviews, focus groups and permanent product records (participants written Masters thesis’). Descriptions of each method will follow later in the chapter. The use of this mixed methods approach is especially applicable to the phenomenon under investigation, as it
allowed flexibility in data collection methods and interpretation of both data and real life situations (Stake, 1995). These dimensions of mixed methods of data collection lend themselves to the desired depth of data required to address the purpose of this research.

The overarching research question for this study was answered through a series of sub questions that initially fell from the literature into the outlined exploration, explanation and expansion phases. The exploration phase was divided into two parts and investigated the factors that had been identified in previous literature that contributed to sustaining RBP and whether these factors have been validated through empirical research. The review of the literature initially identified key RTP areas, claims and validation techniques, prior to a deeper analysis of each of the acknowledged areas. The results of this two-part literature exploration strategy are presented in the literature review in chapter two.

The second part of the exploration phase investigated responses to semi-structured interviews and Part one of the survey. This required participants to outline their original (non influenced by literature) understandings of the factors that contributed to the status of the projects in their setting. Part two of the survey was also distributed and then collected one week later. Part two of the survey used RTP factors identified through literature to elicit project details and status responses.

The explanation phase utilized Permanent Product records, semi-structured interviews and focus groups to establish a deeper understanding of how these identified factors contributed to project status in practical applications. During the expansion phase analyses of responses collected from part one of the survey,
Permanent Product records, semi-structured interviews and focus group to establish whether any other factors contributed to project status.

Although these data collection methods were planned, it is worth noting that Ezzy (2002) suggested the flexibility in design allows for the modification of these tools if required. This process built on the strengths of qualitative methods as it allowed such decisions to be made in a more fundamental way than if analysis was left until after all data collection was completed. Descriptions of each of the planned data collection methods with associated strengths and limitations are identified in table 3.4.

Table 3.4
Data collection tools, advantages and limitations (adapted from the work of Creswell, 2003)

<table>
<thead>
<tr>
<th>Data Collection Tool</th>
<th>Implementation Phase</th>
<th>Advantages</th>
<th>Limitations</th>
</tr>
</thead>
</table>
| Literature review    | Exploration / Confirmation | *Beneficial in recording relevant information at convenient times.  
*Useful in exploring information previously discussed. 
* Builds on prior work in the research to practice gap.  
* Encourages direction and relevance. | *Requires the research to search out and filter through relevant literature.  
*Time consuming. |

| Two Phased Survey    | Exploration / Explanation | *Provides measureable data to set questions.  
*Allows for direct comparison of cross case written analysis. 
* Second part can be completed at leisure within personally selected comfortable | * Dependent on subject’s written response ability.  
* Responses may be limited and time consuming.  
* Body language and human subtleties can not |
<table>
<thead>
<tr>
<th>Locations.</th>
<th>Be detected.</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Allows for a second phase of interview to build on initial written responses.</td>
<td>* Responses are limited to the questions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permanent Product Records</th>
<th>Exploration/Explanation/Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Enables the researcher to gain information that the case coordinator has given attention to, closer to the time of the program implementation.</td>
<td>* Information may not exercise confidentiality.</td>
</tr>
<tr>
<td>* Can be accessed at a convenient time.</td>
<td>* Materials may be incomplete and vary in detail and accuracy levels.</td>
</tr>
<tr>
<td>* Saves time and transcribing expenses.</td>
<td>* Requires approval from case coordinators.</td>
</tr>
<tr>
<td>* Address some ex post facto concerns, as records were kept as events unfolded.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interviews (Open-ended interview will occur initially with the data gathered being used to inform the following semi structured interview)</th>
<th>Explanation/Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Beneficial when direct observation is not possible, suited to ex post facto.</td>
<td>* May be considered indirect information, filtered through views of interviewees.</td>
</tr>
<tr>
<td>* Can build on previously collected details.</td>
<td>* Researchers presence may bias responses.</td>
</tr>
<tr>
<td>* Allows for questioning to be directed to gain deeper understanding.</td>
<td>* People are not equally articulate and perceptive.</td>
</tr>
<tr>
<td>* Body language and gestures can be observed.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Focus Groups</th>
<th>Explanation/Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Beneficial when direct observation is not possible, suited to ex post facto.</td>
<td>* Can be dominated by one voice and reluctance to speak in an open forum.</td>
</tr>
<tr>
<td>* Provides a forum for open in depth shared discussion.</td>
<td>* May be considered indirect information, filtered through views of</td>
</tr>
<tr>
<td>* Body language and gestures can be observed.</td>
<td></td>
</tr>
</tbody>
</table>
3.13. **Data Analysis**

This section briefly defines data analysis then refers to the modes of analysis, including theoretical propositions that are specifically relevant to this multiple case study design.

Data analysis is defined as a “matter of giving meaning to first impressions as well as final compilations” (Stake, 1995, p. 71). Stake (1995) explained data analysis from a qualitative frame as a way of synthesizing the direct interpretation of a case. Miles and Huberman (1994) presented challenges that face qualitative researchers in their analysis of data, due to the “multiplicity of data sources and forms” (p. 55).

To address the challenges of acquiring multiple sources of data from six individual cases, the review of literature was used to guide focus for overcoming this issue. Through reflecting on key RTP findings from relevant literature, the parameters by which data was to be interpreted were defined. Such an approach to data analysis is referred to by Yin (1994) as a dominant mode of analytical analysis titled theoretical propositions.

3.14. **Theoretical Propositions**

The theoretical assertions identified in relevant RTP literature, provided a framework to guide this case study. Lincoln and Guba (1985) suggested that the benefit from a systematic review of literature, can include having a frame to check the soundness of interpretations and having a solid base to create an emergent map of what it all means. Through identifying theoretical assertions, theoretical propositions have been formed (identified in figure 3.3) and were used to analyse data within
individual cases and across them. This form of analysing case studies is an effective way “of laying the groundwork for high quality case studies” (Yin, 1994, p. 125). It was through the identified theoretical propositions that the need to conduct the case study was recognized. Research questions and the design of this exploration, explanation and expansion research were all directed by these RTP theoretical propositions.

The predominant analysis step in this case study research was using propositions. The use of propositions was used as a beacon to direct data collection and as criteria for interpreting findings (see figure 3.3). As previously identified, Yin (1994) described proposition formation as a tool or a way of keeping the investigations on track. As this set of proposals was based on theoretical underpinnings, they had the capacity to directly link research questions to data collection and analysis, streamlining empirical investigations.

Other processes of analysis involved employing methods of interpretive narrative accounts. Interpreting analysis accounts referred to examining the parts of a work to discover deeper meanings. Categorizing the data to extrapolate themes and provide possible explanations are other analysis processes that were employed (Glesne & Peshkin, 1992; Miles & Huberman, 1994; Stake, 1995; Yin, 1994). These processes were applied to permanent product records, interview transcripts and focus group responses.

Yin’s (1994) pattern matching logic was merged with components of Donald Campbell’s (1975) pattern matching techniques. This was done through comparing theoretical assertions with the real life RTP experiences and knowledge of each case. Several pieces of information (survey, interviews, focus groups and permanent
product records) from the same case were related to the theoretical propositions. “If the patterns coincide, the results can help a case study strengthen its internal validity” (Yin, 1994, p.106). The convergence of these results employed a triangulation approach to further substantiate these results in relation to the propositions (see figure 3.6). The replication approach outlined in Figure 3.4 was derived from the work Yin, Bateman and Moore (1983) and assisted in maintaining consistency in application and analysis.

3.15. Procedures

This section builds on the framework, decisions and definitions identified through this chapter. It provides the specific details pertaining to participants, settings, data collection tools, procedures and analysis.

3.16. Participants

Six teachers from a special education division of a Western Sydney based non-government school system represented the total population of this study. These teachers were also students enrolled in the pilot version of the Masters of education (inclusive education) at Charles Sturt University. The participants in this Master’s cohort graduated in 2008 and ranged from kindergarten teachers to a high school special education teacher. All participants shared the same graduate teacher experience and were expected to devise a research based program specific to the needs of their setting. All graduates were asked to participate in this study. Five cases were joined by my case, with the difference of my role as the participant researcher being noted. Data collection commenced one year after graduating from the distance inclusive education Masters program. See Table 4.1 in the results section for participant details.
3.17. The Settings

The projects were set in school-based sites across Western Sydney. Sites included primary schools and a single sex high school. All projects were implemented in 2006, with data collected on project status at three annual intervals from 2006-2008. The schools span across a 70-kilometre radius, and included a diverse socio-economic population, family and teaching structures. Implementation sites comprised of students from both single parent and dual parent families with a wide range of incomes and living conditions. An overview of details that are specific to each case setting are presented in the results section as this data was collected through the exploration phase.

3.18. Phased Research Questions

A visual presentation of the overarching and sub questions is presented in figure 3.2. This was intended to highlight the exploration, explanation and expansion nature of this investigation. The overarching question is presented at the top of figure, followed by sub questions with selected data collection methods displayed. The questions identified in the table were further developed as a result of the survey and interview responses which elicited participants perspectives of literature based factors contributing to the status of projects.
Figure 3.7
Multiple Causal Comparative Case Study Design Research Questions and Overview

What are the factors *and relationships between them* that contributed to the status of research-based projects in inclusive education settings?

<table>
<thead>
<tr>
<th>Exploration Phase</th>
<th>Sub Questions required to address overarching question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designed to gain an account of RTP beliefs prior to introducing themes identified through the literature</td>
<td>1a. What factors have been identified in RTP, PD, TE, CSR and CBAM literatures that contributes to sustaining RBP in inclusive educational settings?</td>
</tr>
<tr>
<td></td>
<td>b. To what extent are these factors been validated through empirical research?</td>
</tr>
<tr>
<td></td>
<td>c. What are the major RTP themes that have been identified through these literatures?</td>
</tr>
<tr>
<td></td>
<td>(Literature review)</td>
</tr>
<tr>
<td></td>
<td>2. What RTP factors were initially identified by case coordinators prior to literature based themes being revealed?</td>
</tr>
<tr>
<td></td>
<td>(Open-ended interview)</td>
</tr>
<tr>
<td></td>
<td>2. Which of the factors described in the extant literature contributed to the status of the projects in the case settings?</td>
</tr>
<tr>
<td></td>
<td>(Survey phase 1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Confirmation</th>
<th>3. Which factors identified in previous RTP, PD, TE, CSR and CBAM literature have contributed to the status of your project?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Survey phase 2)</td>
</tr>
<tr>
<td></td>
<td>4. To what extent have these factors contributed to the status of your project?</td>
</tr>
<tr>
<td></td>
<td>(Survey phase 2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Explanation Phase</th>
<th>7. How do aspects of collaboration (emergent feedback, joint ownership and responsibility, collegiality, increased communication, positive peer and student responses) contribute to the status of RBP in inclusive education settings?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8. How does the responsiveness of research (research relevance, usability and trustworthiness, responsiveness to organisational demands, practical difference, increased teacher contribution, systemic technology, comprehensiveness, school level design)</td>
</tr>
<tr>
<td></td>
<td>(Survey phase 2)</td>
</tr>
<tr>
<td>Question</td>
<td>Expansion Phase</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>What support features (time, resources, consistency, networks, emergent feedback, well developed materials) contributed to the status of RBP in inclusive education settings? How?</td>
<td>9. What support features (time, resources, consistency, networks, emergent feedback, well developed materials) contributed to the status of RBP in inclusive education settings? How?</td>
</tr>
<tr>
<td>What features of a TE program contribute to RTP (framed conceptually, theoretical basis, replication of form, subject structure) in inclusive education settings?</td>
<td>10. What features of a TE program contribute to RTP (framed conceptually, theoretical basis, replication of form, subject structure) in inclusive education settings?</td>
</tr>
<tr>
<td>Did you experience these?</td>
<td>11. Did you experience these?</td>
</tr>
<tr>
<td>(Permanent Product records, semi structured interviews, focus group)</td>
<td>(Permanent Product records, semi structured interviews, focus group)</td>
</tr>
</tbody>
</table>

The three distinct exploratory, explanatory and expanding purposes of this research were presented as a systematic overview representing the nature and sequence of the investigation and data collection methods that directly responded to each research question. This display visually presented the features of the design that aligned closest to Yin’s (1994) multiple explanatory case study design. The investigation of six individual bounded cases provided the opportunity to examine trends and strengthen explanations of how and why factors exerted influence. Given the limited empirical evidence currently available on RTP factors, the exploration of assertions and related research based applications, was required prior to the explanation and expansion phase. The multiple methods of data collection provided a diverse and solid depth of understanding of RTP factors and contributed to the prevention of
errors or distortions in analysis and conclusion. The use of mixed data collection methods contributed to more reliable conclusions, adding to the robustness of theory (Yin, 1994). The section that follows describes the data collection tools through their features that directly respond to these identified research questions in table 3.7.

3.19. **Data Collection Sequence**

Table 3.5 below provides an overview of the data collection sequence and related details. Open-ended interviews were initially conducted to gain each participant’s thoughts prior to any literature-based questions being presented. The two-part survey was then distributed and collected the following week. Semi structured interviews followed the collection of part two of the survey. This allowed semi structured interview questions to be derived from the survey and initial interview data. Analysis of permanent product records occurred throughout this data collection phase. Focus group sessions were the final data collection event and all participants met in the same location for all interviews and the focus group session.

Table 3.5

Data collection sequence and details

<table>
<thead>
<tr>
<th>Sequenced Data collection methods</th>
<th>Expected time required</th>
<th>Recording technique</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Open ended interviews</td>
<td>60 minutes</td>
<td>Digital voice recorder</td>
<td>One to one interview</td>
</tr>
<tr>
<td>2. Two part survey</td>
<td>65 minutes</td>
<td>Written responses</td>
<td>Each participant completes both parts</td>
</tr>
<tr>
<td>3. Semi structured</td>
<td>60 minutes</td>
<td>Digital voice</td>
<td>One to one</td>
</tr>
</tbody>
</table>
Three of the five data collection tools were derived from literature based RTP assertions and used participant responses to develop questions. Table 2.3 outlines the development of these literature based assertions. It also provided parameters for the confirmation and explanation of data collected through part 2 of the survey, the semi structure interviews and focus groups. Each phase of this data collection was used to inform the next. The first part of the survey and the open-ended interviews sought participant’s original responses, prior to the introduction of any literature based categories.

The adaptability of case study design allowed the use of mixed data collection methods. The two-part survey, although limited in number, provided some statistical information whilst the employment of focus groups and interviews enabled the researcher to get closer to the focus of the study. The combination of these approaches through the flexible case study design developed an “in depth subjective understandings of people, situations and key episodes” (Hitchcock & Hughes, 1995, p.318). The data collection methods outlined below was drawn predominantly from a qualitative paradigm. Features of survey reflected elements of the more
numerically driven quantitative paradigms to intensify the depth and comparability to research question responses.

3.20. **Literature Investigation - Factors Derived From Literature That Contribute to the Status of Research Based Projects.**

An investigation of related literature was the initial strategy utilized to inaugurate this research. It also provided a framework for all subsequent decisions and analysis. According to O’Leary (1996) such an approach identifies tangible issues in relation to theory. It informs readers of developments in the field, generates ideas for measuring assertions and provides a method to critically evaluate methods that may identify shortcomings prevalent in literature. The investigation of literature identified an urgent need to link research based knowledge and practical application. Commentary pieces and assertions based on intervention work were used to frame and provide scope for the study to confirm and build on the well-documented RTP concerns. The review of the literature in chapter two commenced with RTP literature. This was predominantly based on commentary claims. As a result PD, TE, CSR and CBAM literature was investigated to gain a deeper understanding of RTP factors. Consistent themes and key factors that were supported and further developed across five bodies of literature were used to develop relevant research questions (see literature review chapter 2). Data collection methods including a detailed survey were developed to test these factors in practical applications.

Table 3.6 identifies the commonalities within and across RTP, PD, TE, CSR and CBAM literature. It confirms consistency across the areas of literature and links key literature based assertions from each of these areas to the corresponding survey questions (see appendix 1). The recognition of factors and development of these
themes across the bodies of literature reviewed was crucial to the purpose of this study and as a result they were used as a theoretical framework for the collection of data for subsequent phase.
Table 3.6
Consistency and development of RTP literature based themes and related factors

<table>
<thead>
<tr>
<th>RTP</th>
<th>PD</th>
<th>TE</th>
<th>CSR</th>
<th>CBAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration</td>
<td>Collaboration</td>
<td>Collaboration</td>
<td>Collegiality</td>
<td>Collaboration</td>
</tr>
<tr>
<td>Shared responsibility,</td>
<td>Joint partnerships (1.11)</td>
<td>Joint partnerships (1.11)</td>
<td>Need for complete theory</td>
<td>Shared ownership of the</td>
</tr>
<tr>
<td>understanding and</td>
<td></td>
<td></td>
<td>framework (4.1)</td>
<td>elements involved in and</td>
</tr>
<tr>
<td>ownership (1.2)</td>
<td></td>
<td></td>
<td></td>
<td>resulting from the change</td>
</tr>
<tr>
<td>Collegiality (1.11)</td>
<td></td>
<td></td>
<td></td>
<td>process (1.6)</td>
</tr>
<tr>
<td>Mutual respect (1.3)</td>
<td>Mutually identified</td>
<td></td>
<td>Intersection of process</td>
<td>Shared acknowledgement of</td>
</tr>
<tr>
<td>Cooperation (1.6)</td>
<td>boundaries, structures</td>
<td></td>
<td>and content (4.4)</td>
<td>changing needs of</td>
</tr>
<tr>
<td>Communication (1.1)</td>
<td>and purposes (1.4)</td>
<td></td>
<td></td>
<td>stakeholders and</td>
</tr>
<tr>
<td>Substantive frequent</td>
<td>&quot;Buy in&quot; from all</td>
<td>Multiple level feedback</td>
<td>Adequate and complete</td>
<td>environments (1.10)</td>
</tr>
<tr>
<td></td>
<td>stakeholders (1.16)</td>
<td></td>
<td>design (4.3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engagement in pursuit of</td>
<td>Responsive, cohesive</td>
<td>Self reinforcing (3.2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>genuine questions,</td>
<td>course structures (4.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>problems and solutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mutually aligned norms,</td>
<td>Well aligned system and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>expectations and roles</td>
<td>policy goals (1.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Understood by all
<table>
<thead>
<tr>
<th>Interaction (1.1)</th>
<th>Feedback (1.12)</th>
<th>Consistency (4.2/4.7a)</th>
<th>United (1.15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical in developing links between theory and practice (1.14)</td>
<td></td>
<td></td>
<td>Awareness of shared ownership and individual strength (1.9)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource Support and PD Support</th>
<th>Support</th>
<th>Supportive Environments &amp; Structures</th>
<th>Support through change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate materials (2.1) Teachers need to feel sufficiently prepared (2.7) Networks (2.12)</td>
<td>Addresses teacher enthusiasm and concerns (2.13)</td>
<td>Emergent feedback (2.10)</td>
<td>Sustained assistance (2.9)</td>
</tr>
<tr>
<td>Adequate time (2.2) Sufficient instructional time (2.22)</td>
<td>Awareness of fatigue and exhaustion (2.11)</td>
<td>Evaluation as an emergent function rather than an add on (2.21)</td>
<td>Support structures must change as needs change (2.5)</td>
</tr>
<tr>
<td>Long term (2.3)</td>
<td>Support personnel qualities and attributes (2.25)</td>
<td>Use of systemic technology (2.26)</td>
<td>Beyond individuals (2.16)</td>
</tr>
<tr>
<td>Positive attitude from students and peers (2.14/2.15) Adequate resources (2.22)</td>
<td></td>
<td>Long term and consistent</td>
<td>From multiple agencies,</td>
</tr>
<tr>
<td>Well developed student materials (2.4)</td>
<td>Ongoing stakeholder support and assistance (2.8)</td>
<td>Need for theory to make TE more coherent (4.1)</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Professional Development (2.7)</td>
<td>Limiting competing demands to achieve a balance of multiple agendas (2.11)</td>
<td>Adequate depth and time to research based practices (2.19)</td>
<td></td>
</tr>
<tr>
<td>Consistent (2.9)</td>
<td>Scientifiically based instructional practices</td>
<td>Well developed student materials, teacher manuals, assessment and training (2.1/2.4)</td>
<td></td>
</tr>
<tr>
<td>Address needs (2.8)</td>
<td>Evidence based and proven to be effective (2.24)</td>
<td>Professional Lives acknowledgement of the need for recognition and reward (2.17)</td>
<td></td>
</tr>
<tr>
<td>Active teacher involvement (2.23)</td>
<td>Central to students learning (2.20)</td>
<td>Instructional leader support for the project (2.26)</td>
<td></td>
</tr>
<tr>
<td>Review research to increase research knowledge (2.24)</td>
<td>Viewed as credible by teachers (2.18)</td>
<td>Comprehensive (3.19)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Within realistic time frames (2.2)</td>
<td></td>
</tr>
<tr>
<td>Responsiveness of research</td>
<td>Responsiveness</td>
<td>Responsiveness of University education programs</td>
<td>Scalability and Educational Power</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------</td>
<td>-------------------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Useable (3.1)</td>
<td>PD programs must respond to genuine teacher needs and concerns (3.11)</td>
<td>Joint partnerships (1.11)</td>
<td>Use of scientific research (3.3)</td>
</tr>
<tr>
<td>Practical (3.7/3.22)</td>
<td>Research based (3.3)</td>
<td>Effective delivery (4.7b)</td>
<td>Validated with scalability potential (3.13)</td>
</tr>
<tr>
<td>Accessible (3.7)</td>
<td>Reflective of student and staff needs (3.6)</td>
<td>Good contextual fit (3.14)</td>
<td>Joint partnerships (1.11)</td>
</tr>
<tr>
<td>Trustworthy (3.3)</td>
<td>Responds to classroom contexts and organizational demands (3.12)</td>
<td>Valued by students (3.15)</td>
<td>School level design for school level influence (3.19)</td>
</tr>
<tr>
<td>Evidence based (3.3)</td>
<td>Consistency (4.11)</td>
<td>Address real life needs and concerns (3.8)</td>
<td>Effective adoption (3.16)</td>
</tr>
<tr>
<td>Manageable and efficient (3.2)</td>
<td>Need for opportunities and time for practical development of classroom based skills and knowledge (3.9)</td>
<td>Self reinforcing (3.20)</td>
<td></td>
</tr>
<tr>
<td>Examined in rich contexts (3.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.20.1. Interviews.

Open-ended and semi-structured interviews were conducted on a one-to-one basis in a conversational style. Semi-structured interviews were designed to elicit spontaneous, relaxed responses to a number of open-ended items pertaining specifically to their experience and project details. All participants were asked the same set of questions beginning with easy to answer questions to build participant’s confidence in the research process. These semi-structured and efficient forms of the qualitative interviewing techniques are beneficial when comparing the responses of different respondents. The interviews were conducted in the same living room to ensure a relaxed, comfortable and quiet setting and took between 60-75 minutes to complete. As previously mentioned the semi-structured interview questions were informed by survey and initial open-ended interview responses.

All interviews were audio taped due to its ease and cost effectiveness. A small audio recorder is less obtrusive than a video recorder in a one to one interview situation and adds the nuances of a person’s voice to the printed words. The use of an audio tape allowed for analysis through repeated studying as well as checking against notes and transcripts.

3.20.2. Survey.

A two-part survey had been purposefully designed for this research. Part one of the survey consists of three components pertaining to personal, setting and program details. Along with statistically driven items relating to the identified themes and open-ended questions were included in part one of the survey to elicit responses not influenced by literature from each participant.
The second part of the survey was divided into an implementation integrity section and a research driven investigation section. The implementation integrity section sought to determine if the selected program was implemented according to specified guidelines. The research driven section used literature-based themes to investigate specific program details and decisions. The literature review in chapter two identified the development and consistency of RTP factor assertions within and across five bodies of literature. Table 2.3 displays the numerical link to specific questions in the survey that address these literature based assertions. The investigation categories sought statistical data at the annual points from 2006-2008. This was followed by open-ended questions, which directly compared the unique case study exemplars details to the RTP factors identified through literature on an individual basis prior to making cross case comparisons. This was collected a week after distribution and a stamped self-addressed envelope was provided for its return (see appendix one for survey).

3.20.3. Focus groups.

The structure of the focus group and questions was dependent upon the responses gained from the survey and semi-structured interview. They provided an opportunity for in-depth discussion around relevant themes including supportive environments, responsiveness of research and collaboration. They were not limited to these criteria as additional RTP factor responses were encouraged through the expansion phase of this research.

Focus groups were conducted after the collection of the survey and the completion of both interviews. They provided an open forum for discussion for 5 out of the 6 participants and took approximately 70 minutes to complete. The focus group was
time efficient, as information was gathered collectively. A facilitator was used to
guide and maintain the flow of the session and was on hand to address group
dynamic problems if they had occurred. The focus group was video taped to display
the context, verbal interaction of many and non-verbal elements such as gestures,
facial expressions, activities and pauses. With the increased number of participants
it was hoped that after a short while they would relax and become unaware of the
video recorder. This process once again allowed for repeated studying of the session
and cross checking against notes and transcripts.

3.20.4. Permanent product record.

Permanent product records were used to provide an additional source of information
on project planning, implementation and outcome-related details. These details
included the needs of the setting, target subjects, aims of the project, implementation
integrity, modifications and success rates. The permanent product records are the
completed assignment documents that were presented for marking at the culmination
of the Master of Education degree. They were not produced for the purpose of later
research, yet they can add specific and comprehensive context details. These
documents were written shortly after the projects implementation and provide time
specific details.

The decision to use permanent product records was made after the consideration of
the “cost/benefits ratio” (Cohen, Manion and Morrison, 2000, p.50). This feature
referred to the fact that the records currently exist and no additional demands need to
be placed on researchers as professionals in the pursuit of the truth. Participants all
agreed to release their project documents, so these documents were consulted at
regular intervals, at convenient times and contributed to the convergence of
evidence. Given that this investigation is an ex-post facto design, the use of permanent product records addressed the time delay threat as it presents data that was gathered at a particular point in time.

3.20.5. Ethical and methodological implications.

Time concerns in completing the survey and participating in semi structured and open-ended interviews and focus groups was considered a burden to participants. Allowing ample time to complete tasks and building a schedule that was sensitive to the commitments of the participants responded to this risk. Approximately one hour was required from each participant to complete the survey, with an additional hour for the focus group session, open-ended and semi-structured interviews. Confidentiality and privacy was exercised through the use of pseudonyms. All documents and recordings are securely stored in a locked cabinet and will be destroyed after five years.

Concerns related to my role as a participant researcher have been previously outlined. The initial completion of tools assisted in addressing these concerns. Asselin’s (2003) insider-outsider researcher work adds to participant researcher risk awareness. Suggestions that role confusion can occur if the researcher is familiar with the participants through a role other than that of a researcher are valid. Clear participant and researcher roles and the use of an interviewer to conduct my interviews assisted in catering for these concerns. Breen (2007) suggested that ethical issues that arise from insider research often lack guidelines and need to be dealt with on an individual basis. Ethical principles of privacy, confidentiality, signed consent and non-maleficence guided additional ethical considerations.
3.20.6. Recording of results.

Interviews were audio taped and focus groups were videotaped. All recordings were transcribed. Participants were asked to validate the accuracy of their transcript and clarify unclear responses.

Due to my position as a member of the graduate teacher cohort I took on the role of a participant in this study. Given that I am also the sole researcher an independent external observer was asked to read the case study to reduce possible bias that could have been created due to my participant researcher status. By following the derivation of evidence from the research questions to the study conclusions in either a forward and reverse direction, bias elements were reduced (Yin, 1994). This process allowed me to participate in discussions that responded to the research questions, so that results from a 60% sample of Masters graduates were obtained.

Both the interviews and focus group approach provided an opportunity for participants to add further clarification and understanding to the overarching research question and sub questions in person. Analysis of this data was compared to participants survey responses in order to determine if any correlation of factors that influenced the practical application, sustainment or extinction of the project existed.

In brief, three data collection gathering occasions occurred after the initial investigation of literature. The first event comprised of an open-ended interview and the two-part survey. This was representative of the exploration phase and elicited responses prior to RTP literature based themes were introduced. Once findings from this exploration phase were analysed and a second gathering (semi structured interviews) followed. This semi structured interview utilized questions based upon the initial interview and survey findings. This represented the explanation phase and
sought to determine which literature based RTP factors contributed to the status of research based projects. This second occasion also contributed to the expansion phase as opportunities for the identification of additional RTP factors existed. The focus group was informed by all previous data collection opportunities and represents the final data-gathering occasion. Collectively these data gathering opportunities combined to gain details pertaining to the exploration, explanation and expansion of RTP factors across diverse implementation settings.
Chapter 4. Results

4.1. Exploration Phase

The results chapter is organized into three sections. The first section is an introduction to the background and context of each case. This includes a description of the cases and identifies the status of cases from 2006-2009. The chapter also presents the techniques described by the research participants to ensure the integrity of the implementation of each case. This information was collected to establish the veracity with which the projects were implemented, in order to determine the quality of the research to practice efforts from which data was derived and conclusions drawn. The second section presents an overview of the RTP factors asserted in existing literature that were used as a reference point for the description of data generated by the cases. The final section compares the cases to respond to the research questions within the three phases of this study; the exploration, the explanation and the expansion phases.

The exploration phase sets a baseline for the study by investigating what the literature stated about RTP and what the participants found through their unique experiences and compared them. The first part of the exploration phase investigated five bodies of literature to identify existing factors that influenced the research to practice gap. Each participant was also asked to identify the factors that contributed to the status of their projects prior to the RTP literature being shared with them. A comparison between the findings derived from the RTP literature and the perceptions of the participants about the factors that had an impact on the implementation of their projects was conducted.

The second explanation phase generated a deeper interrogation of the factors that contributed to the status of research-based projects in the six different classroom
applications. The findings of the literature review and participant experiences were used to guide the development of interview and survey questions employed in the explanation phase. The information participants shared about why and how individual projects were implemented was compared to the factors identified through the literature to create questions that would encourage additional detailed RTP responses.

The third, expansion phase presented the connections identified by participants between the first two phases. Throughout a focus group participants explored the priorities and interactions among the factors presented. They discussed, elaborated upon and confirmed the RTP factors they identified through their direct experiences. They expanded on their description of the relationship between the factors and presented factors that were not identified in the first two phases of the study. This final section of the results chapter used the accumulated knowledge gained through the exploration, explanation and expansion phases to respond to the overarching research question: What are the factors that influence the translation of research to practice in inclusive education settings?

The results section is organized to accomplish the following:

1. To introduce and describe each of the cases, including researcher background, setting, their research foci, quality of implementation, and status of the projects at the end of each academic year over the study.

2. To present a summary of the literature review conducted as part of the exploration phase of the study. The literature identified through this RTP search was used to inform interview questions to identify those factors that contributed to the status of research based projects in classroom applications. The same methods were used to
collect data across all cases. This assisted in identifying the similarities and differences across cases.

3. To present the findings derived from the investigation of the six cases through the three phases of the study: Exploration, Explanation and Expansion.

Each of these phases had its own sub-questions, which assisted in the acquisition of knowledge to answer the overarching question of this investigation. Sub-questions for each phase are as follows:

What are the factors and relationships between them that contributed to the status of research-based projects in inclusive education settings?

4.1.1. Exploration phase questions.

What factors that have been identified in previous literature contribute to sustaining RBP in inclusive education settings? How have these factors been identified? To what extent have these factors been validated through empirical research? What are the existing key RTP gap contributors identified through initial teacher perception? How do they compare to existing literature?

4.1.2. Explanation phase questions.

How do factors identified in the cases contribute to the status of RBP in inclusive education settings? In what ways do those factors exert an influence?

Additional question established after the analysis of the data collection through the exploration and explanation phases- How have the identified relationship between factors exerted an influence on the practical application and sustainment of the projects?
4.1.3. Expansion phase questions.

What factors, other than those identified in the exploration and expansion phases, contribute to the status of RBP in inclusive education settings?

*Additional question established after the analysis of the data collection through the exploration and explanation phases-* What were the differences and consistencies in the relationships between the RTP factors that contributed to the status of the projects that were identified by the research participants?

In summary, this study identified and validated the specific factors that contributed to the status of six individual research to practice projects. Through the examination of the six different cases, the RTP knowledge identified in the literature search could be directly examined.

4.2. Introduction to the Background and Context of the Cases

This study took place in a non-public educational system in Western Sydney. Six participants were involved and pseudonyms have been used and locations removed to maintain anonymity in all cases other than my own. An overview of case and participant details is presented in Table 4.1 followed by a description of each case.

Each participant completed the same Masters of Education (Inclusive Education) course at a regional university via distance education with a 2 day residential school each semester. Coursework commenced in 2006 and was completed in 2007. Participation in the course was voluntary and was partially sponsored by the participant’s employer both financially (75% of the course costs) and through the allocation of two study days per semester. Participants completed a written application for entry into the Masters program and their employer used this
application as the basis of selection. The participants who were selected for admission indicated that they completed the Masters course to increase their depth of knowledge in inclusive education. They stated that they wanted to become better equipped to assist their students and colleagues and be able to share their knowledge of research based practices and inclusive education with other members of the educational community. The course culminated in the development and implementation of an applied research based project to address the needs of the students at their setting.

The implementation of the research-based project was required as a capstone experience for the completion of the Master of Education degree. The project required the design and implementation of an empirically validated (proven to be effective as a result of sound rigorous investigations) research to practice intervention. The course was framed around an evaluation methodology that required participants to employ a known evaluation model in the design and implementation of their project (Bain, McDonagh & Lancaster, 2005). Evaluation is described as “the identification, clarification, and application of defensible criteria to determine an evaluation object’s value, it’s merit or worth, in regard to those criteria” (Fitzpatrick, Sanders & Worthen, 2004, p.27). The evaluation approach provided an expedient yet empirically robust and informative way to determine the process and outcomes of the projects developed by the participants. The approach also provided practical opportunities for feedback that were used in school settings to further develop the projects.

Participants were required to develop their research-based projects based upon interventions in inclusive education that had a record of prior successful use in
applied settings. The existing record of applied empirical research on the topic determined this. Participants presented a final report describing their projects and the details of its implementation as their Masters’ thesis. These projects were used as a permanent product record that provided an account of the individual projects written by each participant. These permanent product records are referred to as projects through this research.

Six out of ten research participants who completed this requirement of the Masters of Education course were participants in this study. The implementation of the projects in the respective school settings provided the context for this study.

The following section individually introduces the research participants and the details that are specific to their settings and cases.

4.2.1. Participants

All participants were female and their ages ranged from 40-54 at the commencement of the project. All were experienced teachers and had taught at an average of 4 schools. They all held the role of Special Education Teacher at the setting where their project was implemented. All six had completed two university degrees prior to participating in this project. Five of the six projects were conducted in primary schools with student enrolments ranging from 350 to 600. One project took place in a high school where approximately 1200 female students were enrolled. At the time of completion of the data collection in 2009, three of the six participants were still working at the school where their project was implemented. The other three had moved to other school settings.
Table 4.1 provides a visual overview of participants, their project and setting details.

Additional details that are relevant to individual cases are provided in a narrative form following the table.

Table 4.1
Research participant details

<table>
<thead>
<tr>
<th>Participants</th>
<th>Years of teaching experience</th>
<th>Project</th>
<th>Setting</th>
<th>Students involved at implementation /students at school</th>
<th>Staff involved at implementation / staff at school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chris</td>
<td>19</td>
<td>Oral Reading Fluency</td>
<td>Elementary school (K-6)</td>
<td>90 in year 2/580</td>
<td>4/42</td>
</tr>
<tr>
<td>Mary</td>
<td>31</td>
<td>Curriculum Bases Measurement –literacy</td>
<td>Elementary school (K-6)</td>
<td>45 in K/353</td>
<td>4/32</td>
</tr>
<tr>
<td>Diane</td>
<td>25</td>
<td>Reading tutor program</td>
<td>Secondary school (7-12)</td>
<td>50 in years 7 to10/1200</td>
<td>2/150</td>
</tr>
<tr>
<td>Wilma</td>
<td>27</td>
<td>Oral Reading Fluency: CBM</td>
<td>Elementary school (K-6)</td>
<td>42 in Year 6/350</td>
<td>6/32</td>
</tr>
<tr>
<td>Sam</td>
<td>21</td>
<td>Explicit teaching: reading skills</td>
<td>Elementary school (K-6)</td>
<td>66 in Year 1/600</td>
<td>5/40</td>
</tr>
<tr>
<td>Meg</td>
<td>27</td>
<td>Peer assisted learning in spelling</td>
<td>Elementary school (K-6)</td>
<td>50 in Year 3/600</td>
<td>2/40</td>
</tr>
</tbody>
</table>

The following section introduces the cases individually. Unique factors about research participants that are not identified in Table 4.1 are presented. Project setting details and features of each project are described. The approaches taken to maintain the integrity of implementation of the projects are also described for each case.
4.3. Introduction to Individual Participant and Case Details

4.3.1. Case 1- Chris (Year 2- Curriculum-Based Measurement- DIBELS- Oral Reading Fluency)

As a participant researcher I completed each phase of the data collection first so that I was not influenced by the responses of other participants. I have pre-existing views and opinions that are unique to my experience and relate to the focus of this study. I acknowledge that I have brought personal and professional insights as a student, researcher and educator through my teacher and researcher experience to this study. These experiences have, and continue to present both positive influences and challenges in this research. As a teacher, I have both an interest in, and commitment to inclusive education. The insights gained from being a researcher and as a primary school teacher may also be seen to add strength to this investigation. However, it is also acknowledged that my personal experience may create biases in the interpretation and presentation of findings within this thesis. The ways in which these possible biases have been reduced were explained in the Methods chapter (Chapter 3).

At the time of the project implementation I described the school in the following way:

My school is new, only ten years old, and staff remain stable with minimal changes prior to 2007. I have enjoyed watching the school grow and change over the past decade. Staff members are supportive of each other and school initiatives. We enjoy social gatherings on a regular basis and work very hard to provide a range of opportunities for the students. The staff, students and parents work together to give the students the opportunity to participate in
events such as Wakakiri (a creative arts initiative where students perform for large audiences in a well publicized evening event at a reputable Sydney venue), a school production of Robin Hood and multiple sporting days (Chris, 2009, p.1).

In order to cater for the needs of my students and meet the requirements of the Masters degree I implemented a project titled: A program for tracking reading fluency for year two students. It started as a pilot program to address the lack of growth in the reading development between students in year 3 and year 5. The project was designed to track individual student’s reading abilities of 94, Year 2 students.

The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) was employed in the project. DIBELS was developed at the University of Oregon and is described as a prevention-orientated, Curriculum Based Measure (CBM) utilized to identify readers at risk of not achieving adequate outcomes (Good & Kaminski, 2002). DIBELS is comprised of the following measures which are implemented individually: ISF (Initial Sounds Fluency – preschool to mid Kindergarten); LNF (Letter Naming Fluency- beginning Kindergarten to beginning 1st grade); PSF (Phoneme Segmentation Fluency- mid Kindergarten to end 1st grade); NWF (Nonsense Word Fluency – mid Kindergarten to end 1st grade); ORF (DIBELS Oral Reading Fluency- mid 1st grade through 6th grade); RTF (Retell Fluency- mid 1st grade through 6th grade).

DIBELS Oral Reading Fluency (DORF) measures were selected for my project to address the identified reading needs of students. DORF measures have been used widely in schools to respond to Great Britain’s National Literacy Strategy.
(Department for Education and Employment, 1998) and America’s No Child Left Behind Act (2001). DORF is a standardised individually administered test of accuracy and fluency with connected text.

A number of studies investigating the efficacy of the DORF approach have shown that improved fluency can lead to comprehension gains, and improved reading growth (Kuhn & Stahl, 2003; Shinn & Good, 1992). The success with a wide variety of implementation settings, support the use of DORF measures as being beneficial in single class implementation as well as promoting its ability to be scaled up to whole school implementation (Berniger, Abbott, Vermeulen & Fulton’s, 2006; Shinn, Knutson, Good, Tilly and Collins, 1992).

Student performance is measured by having students read a passage aloud for one minute. Reading passages with clear instructions are provided. They are calibrated for the goal level of reading for each grade. My pilot project represented the first of a three-staged planned program that was specifically designed to address the lack of student growth in reading ability using DORF. The second phase aimed at implementing DORF measures in year one and the third phase was to expand the use of these measures from years three to six. The need to address the lack of growth in student’s reading abilities was identified by the school staff and through an external school review. The increasing transparency of students’ academic results due to state-wide testing also identified the lack of reading growth in many students’ results from the year three to year five NSW Basic Skills Tests (BST).
1.1.1.6. **My reported program implementation integrity**

The DIBELS program included a number of protocols and procedures for monitoring the integrity of implementation of the measures (See Table 4.2). Other ways the program was monitored included observations, pre and post interviews, student and teacher questionnaires and surveys. The Masters project was consulted to provide the following implementation details;

The instructions provided in the DIBELS teacher manuals were used. DORF data was collected from ninety four, year two students over a six week period. Three DORF passages were presented to each child in week four and week nine of term four, 2006. An average of the raw scores from the three passages was calculated. Student performance was measured by having students read each passage aloud for one minute. Words omitted, substituted or hesitations of more than three seconds are scored as errors. Words self-corrected within the three seconds are scored as accurate. The number of correct words read in one minute from each of the three calibrated passages, were averaged to calculate individual student’s oral reading fluency rate. The same process was repeated in week nine. This second opportunity to collect students ORF results made it possible to compare tracked reading fluency results on two separate occasions (Grima-Farrell, 2007, p.46).

1.1.1.7. **Results of the project**

The DORF results collected at the start of the project indicated that student scores ranged from 13 to 191. Of the 94 students assessed in 2006, only 55% were reading beyond the age appropriate rate of 90 words per minute. The mean DORF rate
increased from 87.47 words per minute at the start of term four, 2006 to 95.9 by the end of 2006. These DORF results along with 97% of teachers’ who indicated that they believed DORF measures to be accurate in determining ORF, combined to highlight the benefits in implementing DORF measures at my setting (Grima-Farrell, 2007).

1.1.1.8. 4.4.1.3. Scaling up of the project

Scaling up of the project occurred at a faster rate than expected. The project started with three year 2 classes in 2006 and by the end of 2007, DIBELS measures were used from K-6. Student reading fluency growth rates continued to increase across the school until December, 2007. By 2008 the DORF measures were no longer administered during the recommended time frames and the project was only partially sustained. By 2009 the DORF measures were no longer administered and the project became extinct.

4.3.2. Case 2- Mary (Kindergarten- Curriculum Based Measurement-DIBELS- Initial Sound Fluency and Letter Naming Fluency)

Mary was the only participant with international teaching experience. She had taught for 13 years in schools in Ireland, Kenya and Spain (K-6) prior to her 16 years of teaching in Australian schools as a K-6 and Special Education Teacher. Mary described her school in the following way:

My school is a rural K-6 two stream school situated in south western Sydney. Many of the students in our school are from families where one or both parents are from a European background, where English is spoken as a second language. Some parents work on the land, while others would be considered blue-collar workers (Mary, 2009, p.1).
Mary’s project initially targeted Kindergarten students and aimed to identify those in need of extension or additional supports in the area of literacy as early as possible. Information gained from the project was used to inform intense explicit teaching for those students and make their school experiences effective from the start. The project was titled: Curriculum Based Measurement – A method of identifying students who are ‘at risk’ with literacy at the beginning of Kindergarten. Mary stated that:

This project was selected to establish the value of immediately identifying children ‘at risk’ of reaching kindergarten benchmarks with literacy, and that with additional explicit instruction in phonemic awareness, the needs of these children could be addressed (Mary, 2009, p.1).

Mary reported that her project presented the value of using a curriculum based measurement from the beginning of Kindergarten to identify students at risk of failing to read. It also included four weeks of explicit instruction for the students identified as being ‘at risk’. The curriculum based measurements used were DIBELS Initial sound fluency (ISF) and Letter Naming Fluency (LNF) probes.

These measures were also created at the University of Oregon and developed by Dr. Roland Good III and Dr. Ruth Kaminski but they have a different application to the DORF measures used in my case. The ISF task requires students to identify the word that begins with a target sound from an array of four pictures. There are a total of 12 items on each probe. Every fourth item requires that the child produce the onset sound for a target word (Good, Kaminski, Simmons, & Kame’enui, 2001). The LNF tasks requires the student to name as many letters as they can in one minute from a printed page containing rows of randomly ordered upper and lower case letters. They
were specifically designed to assess the Big Ideas of early literacy and the critical areas of literacy indicated by the National Reading Panel (2000) and the National Research Council (1998). These critical areas of literacy include: phonemic awareness, phonics, fluency, vocabulary and comprehension.

A number of studies investigating the efficacy of CBM approaches have shown that it has been recognised internationally as a tool that is reliable and inexpensive to administer (Allinder, Fuchs & Fuchs, 2004; Shinn, 2002). CBM measures have been applied to screening, placement in curriculum levels and progress monitoring although the best feature of CBM is its usefulness in helping classroom teachers to determine the effectiveness of their teaching in a variety of applications (Fuchs, 1993; Fuchs, Fuchs & Hamlet, 1989; Witt, Elliot, Daly, Gresham & Kramer, 1998 as cited in Mary, 2007, p.18).

Mary’s project used the Initial sound fluency (ISF) and Letter Naming Fluency (LNF) aspect of DIBELS whilst my case utilised the DORF components. Mary reported that she implemented the ISF and LNF measures at the start and the end of every four-week cycle within her project to determine if any changes in student achievement were evident. Her project was consulted for additional information. In the project Mary stated that the measures were specifically designed to focus on phonemic awareness and provide teachers with knowledge to assist with explicit instruction in this area. She identified that explicit instruction can be referred to as the systematic instructional approach that consists of both design and delivery components (Mary, 2007).
Mary did not provide literature support for explicit teaching although it has a solid foundation (Cohen, & Spenciner, 2005; Hall, 2009). An additional search identified that teaching using explicit instruction is most beneficial for low-performing students and students in special education. However, the results from extensive research repeatedly indicate that all students benefit from well-designed and explicitly taught skills (Hall, 2009). Explicit teaching draws on both the behavioural and cognitive theories of learning. Cognitive theory is concerned with “how students think, process information and remember” (Cohen, & Spenciner, 2005, p.192). Behavioural theorists are concerned with observable behaviours and the arrangement of stimulus conditions as well as reward (Cohen, & Spenciner, 2005). The key features of explicit instruction are structured tasks that are developed after a highly sophisticated analysis of curriculum. Teacher demonstration, guided practice based on the principles of mastery learning, academic focus, student engagement, teacher feedback, scaffolding and reinforcement of tasks, verbal and cognitive clarity and independent practice are important elements of explicit teaching (Arthur-Kelly as cited in Foreman, 2005; Killen, 2003). A number of studies examining the efficacy of explicit instruction have shown it as an effective strategy for teaching phonological awareness (Al Otaiba et al., 2005; Carnine et al., 1990; Ellis, 2005; National Inquiry Into the Teaching of literacy, 2005).

1.1.1.9. 4.4.2.1. Mary’s reported project implementation integrity

Mary’s completion of the implementation integrity checklist identified that DIBELS Initial Sound Fluency and DIBELS Letter Naming Fluency progress monitoring probes were implemented according to guidelines specified in the program (See Table 4.2). She also used teacher observations and teacher and student feedback to
assist her in determining the effectiveness of her project. Mary reported that results were calculated and the project was evaluated in accordance with these guidelines. Mary used DIBELS Kindergarten Benchmark assessments to collect data on the phonemic knowledge of 45 children beginning school in 2007. Mary’s project confirmed that the DIBELS tools used in the intervention were Initial Sound Fluency and Letter Naming Fluency (Mary, 2007). This written resource added that all 45 students across 2 classes in Kindergarten were assessed in weeks one and two. The probes took a minute each to administer. ISF required students to look at a series of pictures in groups of four and to point to the picture beginning with a particular sound. Students needed to score eight to be in the low risk category, four in the some risk category and less than four to be in the at risk category. The initial assessment found 27 students to be at risk with 16 in the some risk category and two in the low risk category. Eight children out of the 27 in the ‘at risk’ group had a score of zero. Twenty students were found to be at risk of not knowing letter names (Mary, 2007).

Mary reported that in the following weeks the students were taught four sounds explicitly for ten minutes in each class. Students were given the opportunity to develop independent practice by playing games like ‘I Spy’ and composing silly sentences orally using vocabulary built from the initial sounds taught. Rhyming skills were developed by creating word families. During the second interview Mary stated that by the end of one week of explicit instruction the 27 children in the ‘at risk’ category were assessed using ISF progress monitoring probes and only 13 students were found to be at risk. Direct instruction lessons continued in the following week but the ‘at risk’ group received five extra minutes instruction to help practice and consolidate the sounds learnt. The thirteen ‘at risk’ students were assessed again and six students were still found to be at risk but nobody scored less
than two. Explicit instruction lessons continued over a four week period and at the end of the intervention six students were recorded in the ‘at risk’ category, 16 in the some risk category and 23 in the low risk category (Mary, 2007).

Mary reported that she modelled explicit instruction in the first week of the project. The classroom teachers then taught it in subsequent weeks. Through teacher observations Mary found that the instruction given was direct and explicit. Feedback was given to teachers on their use of guided and independent practice during the lessons. Teachers completed a survey on their experience teaching phonemic awareness explicitly as well as the training provided in the administration of the DIBELS probes. Mary’s responses to the survey and her interview responses identified that teacher feedback supported the value of using a CBM to identify children at risk with literacy from the beginning of Kindergarten. She reported that teachers valued the support this data could give when planning instruction.

1.1.1.10. 4.4.2.2. Results of the project

Mary’s analysis of the data identified 27 children to be ‘at risk’. Following the first four-week period of explicit instruction in phonemic awareness, ‘at risk’ students were assessed using DIBELS Progress Monitoring probes in Initial Sound Fluency. Mary reported that the number of ‘at risk’ students reduced by 46.7% from 27 to 6. Classroom observations indicated that teachers were graphing data and modifying their instruction to support those children at risk. Mary reported that the teacher feedback she collected on the administration of the DIBELS probes indicated that the probes were easy to administer and were an invaluable way of collecting data in a busy classroom.
1.1.1.11. 4.4.2.3. Scaling up of the project

Mary reported that her project grew rapidly due to its success. The project was scaled in 2008 with DIBELS measures being administered in all classes from Kinder to Year 6. Through the first interview Mary stated that the project was scaled and used in schools beyond the implementation setting in 2009.

4.3.3. Case 3- Diane (Years 7 to 10- Curriculum- Based Measurement- Peer Assisted Learning)

Diane described her project implementation setting as having a “low socio-economic status, with many nationalities but the majority of students are from Philippine backgrounds.” Diane’s project title was: “A Reading Tutor Program.” It was designed to prevent students from leaving school prior to completing Year 10 because their reading ability did not allow them to fully participate in learning experiences whilst at school. The project aimed at boosting the reading levels of fifty students. It was initiated to improve reading accuracy, fluency and comprehension.

During the interview Diane reported that the project consisted of students using Peer Assisted Learning Strategies to improve student reading ability. Her project provided additional details about peer-assisted learning (Diane, 2007).

Topping and Ehly (1998) defined peer-assisted learning as the acquisition of knowledge and skill through active helping and supporting among status equals or matched companions. Peer tutoring is a specific form of peer-assisted learning; it is a collaborative approach in which students (in pairs) interact to assist each other’s academic achievement, with one pupil adopting the role of tutor and the other the role of the tutee. Students read aloud to a
tutor who encouraged, corrected (accuracy) and checked for comprehension. The program was modified for the high school setting and was based on Peer Assisted Learning Strategy research.

A number of studies identified the efficacy of Peer-Assisted Learning Strategies (PALS) through providing evidence of its effectiveness (Topping & Ehly, 1998; Fuchs, Fuchs, Thompson & Svenson, 2001). PALS strategies were used extensively in the US and were found to have potentially positive effects on reading achievement for English language learners (What Works Clearinghouse, 2010). Rohrbeck, Ginsburg-Block, Fantuzzo & Miller’s (2003) study added that all teachers should receive training on the implementation of effective PAL strategies (Diane, 2007, p.17).

Diane described that she used CBM DIBELS Oral Reading Fluency probes to determine if a student qualified for placement on the program. Non-standardized measures for repeated reading were taken to assess student improvements whilst on the program. The structure of the program included repeated reading, partner reading, paragraph shrinking and prediction relay. Partner reading used a technique called pause, prompt and praise.

Diane reported that the school executive and the teaching staff supported the program. The implementation setting was a Year 7 to 10 secondary school campus and students from each year group were represented. Participants included students who had been identified as ‘at-risk’ and Year 10 volunteer tutors. The students had been identified from school-based Screening Tests on enrolment, ELLA and reading assessments. Additional investigation identified that ELLA is the English Language and Literacy Assessment (ELLA) administered to all Year 7 students in government
schools and interested non-government schools in NSW. ELLA is a curriculum-based assessment, testing students' knowledge and skills in particular aspects of literacy.

Diane reported that the tutors worked one on one with a particular student all year. The teachers supervising and managing the program were from the Learning Support Team. The stakeholders were the school executive, classroom teachers and parents of the student ‘at-risk’. Diane’s project was consulted to add clarification to the implementation details that Diane had provided during the interview. It identified that the project ran for two days a week (Tuesday and Wednesday) for 30 minutes per day, all year. Diane explained that the timing encompassed 10 minutes before school, 10 minutes of Homeroom time and 10 minutes of Period 1(Diane, 2007).

1.1.1.12. 4.4.3.1. Diane’s reported project

implementation integrity

Diane stated that she used observations, checklists, student surveys, teacher interviews and questionnaires to determine the effectiveness of her Reading Tutor Program. She also employed DORF probes, described in my project to determine changes in student oral reading fluency rates. Diane’s completion of the implementation integrity checklist and interview responses indicated (See Table 4.2) that although the DIBELS ORF measures and guidelines were used, they were not calibrated for high school students. Diane stated that some modifications to fluency rate expectations were evident as her students were in high school.

Diane reported that:

the majority of teachers (80%) thought that the reading ability of the students had improved and this enabled them to access more of the curriculum. They
also thought the students participated more in classroom activities. The tutor survey results identified that all of the tutors thought the program helped the students read better. There was concern from some of the tutors that they needed more training in the specific techniques of the activities” (Diane, 2007).

Diane reported that the tutors thought the graphing of results from the Repeated Reading exercise onto a chart inspired the students to do better.

Diane selected the DIBELS primary school measures for her high school setting because “some students were considered to be ‘at-risk’ because their literacy levels were significantly lower than their peers, so they were disengaging with their learning” (Diane, 2007, p.30). Diane explained that the Reading Tutor Program used the standardized Neale Analysis of Reading Ability Test to determine improvement in reading accuracy and comprehension after the initial ten-week period. She stated that the results of the Neale and DORF measures indicated an improvement in reading rate, comprehension or accuracy.

1.1.1.13. 4.4.3.2. Results of the project

Diane’ reported an average of a six month improvement in reading accuracy, a four month improvement in reading comprehension and an average improvement of 52 words read per minute per student over the first term of the project’s implementation. Both Diane’s interviews responses and project presented that the implementation of the program was affected by student absenteeism, lateness to school. Diane identified that the strongest response from students was from the Repeated Reading activity. She stated that students were inspired to improve their scores as the visual impact of their graphs had a great effect.
1.1.1.14. 4.4.3.3. Scaling up of the project

Diane stated that her project continued to be sustained at her implementation setting in 2009. The project grew to incorporate year 9 students as tutors as well as the year 10 students. Diane reported that due to the limited space in the library the project couldn’t be scaled. During 2007 Diane moved to another secondary setting where she implemented the same project. Diane reported that the projects were still being sustained at both high school settings in 2010.

4.3.4. Case 4- Wilma (Year 6- Curriculum-Based Measurement - DIBELS- Oral Reading Fluency)

Both Wilma and Mary implemented their individual projects at the same setting.

Wilma’s description of the setting provided additional details:

The program was conducted at a mainstream primary school of 356 children. The setting was rural with children living on farms or in small residential areas. There was a wide cultural diversity within the school and large numbers of students had Lebanese, Italian, Maltese or Croatian background. The majority of students were born in Australia. The Year Six cohort was comprised of 42 boys and girls. Classes were of mixed ability, although seven students formed a small group who received extra support in reading from the Special Education Teacher (Wilma, 2009, p.1).

Wilma’s project was aimed at the Year 6 level whilst Mary’s was aimed at the kinder students. Wilma’s project title was Oral Reading Fluency: Using Curriculum Based Measurement for Assessment and Instruction (See Chris’ case for description of DORF). She stated the reason for selecting this project for her setting was because;
The Program was designed to address the problem of limited assessment of Year Six students in Reading. The students completed the TORCH Comprehension Test at the beginning and end of the school year and this was been documented in the School Assessment Plan. This data was used to plan graded reading groups and as evidence in the E-A Reporting Scale. Students experiencing difficulty were tested regularly using the PM Benchmark Kit that ceased when they attained Level 30 (Reading Age 12 years). The PM Benchmark kit is used to assess students reading abilities using unseen and age relevant texts (Randell, Giles, Nelley & Smith, 2002). The Year Six students Basic Skills Test data was also used to inform planning and instruction. The DIBELS Oral Reading Fluency was introduced to assess the students’ skill of reading connected text in grade level material (Good, Gruba & Kaminski, 2002). The Program served the need for regular student assessment using a reliable, valid and research-based tool and the planning of explicit instruction that would improve oral reading skills based on this data (Wilma, 2009, p.8).

Wilma outlined how the data gathered was used to plan appropriate instruction using the re-reading strategy. The students completed activities daily and graphed their results as a self-monitoring approach. Corrective feedback was given during the project and instructional adjustments were made when needed.

1.1.1.15. 4.4.4.1. Wilma’s program implementation integrity

Wilma used student and teacher surveys, observations and the Dynamic Indicators of Early Literacy Skills Oral Reading Fluency (DORF) measures to determine the
effectiveness of her project. During the interviews Wilma reported that all students were assessed using the DORF measures at the beginning, middle and end of the year and additional data was collected throughout the year according to the guidelines. Wilma’s implementation integrity checklist (See Table 4.2) indicated that DORF structures and materials were implemented using DIBELS instructions and guidelines as outlined in my case. Wilma stated that results were calculated and the project was evaluated in accordance with the guidelines.

1.1.16. 4.4.4.2. Results of the project

Wilma stated that all students in Year Six were assessed using the DIBELS ORF at the commencement of the project in 2007. She identified that on the completion of this initial assessment, seven students were in the ‘at risk’ band with scores ranging from 44 – 70 words per minute. Wilma explained that the reading of 83 words per minute was required to move up to the “some risk” band. Wilma went on to report that after a period of four weeks only 3 students remained in the at risk group with scores ranging from 48 – 70 wpm. Additional details on the results of the project were located in Wilma’s project;

In general there was an upward shift of students throughout the 3 bands. All students completed reading fluency activities during the project and graphed their results daily. A small group of students also completed oral reading activities as part of their homework and parents provided feedback regarding their child’s progress (Wilma, 2006, p.60).

1.1.17. 4.4.4.3. Scaling up of the project

Wilma stated that by 2008 her project was scaled and DIBELS measures were being implemented in all classes from Kinder to Year 6. During the first interview, Wilma
reported that the project was scaled beyond her setting and was implemented at another school in 2009.

4.3.5. Case 5- Sam (Year 1- Explicit Teaching as a practice for quality teaching)

Sam worked at two primary settings during her project implementation year. Sam implemented her project in the larger primary school that she taught at and described the setting in the following way:

The program is set in a non public school in NSW. The school of 600 students was built twenty years ago to service newly developed housing estates in an Outer Western Sydney area that is predominantly working and middle class. Although not regarded as a school with a high migrant population significant numbers of the children are second and third generation Australian from Maltese backgrounds. In the past three years a number of refugees from the Sudan have been enrolled in the school. A significant number of children enter Kindergarten each year having had limited experiences with literacy and books (Sam, 2009, p.37).

Sam suggested that a significant number of children had limited literacy experience as they began Kindergarten. As a result Sam stated that a need existed to understand and explore explicit teaching of phonological awareness with her group of students. Her project was titled: Explicit Teaching: Improving Foundational Reading Skills in Year One (See Mary’s and Chris’ cases for a description of other DIBELS probes). It explored the relationship between explicit teaching and the reading development of 66, Year One students. Sam provided the following project description:
This program seeks to build capacity amongst Year One teachers to implement explicit instruction in reading particularly in the area of phonological awareness. The program exists to support the work of the school leadership team who promote the use of explicit teaching as a practice for quality teaching. It has been initiated because ongoing professional development of teachers is needed to successfully implement this pedagogy. Improving student outcomes in the area of English was a recommendation of the school review conducted in 2005.

Teachers and parents are concerned when children do not meet the expected outcomes for reading. Children are keen to succeed in reading, and are frustrated when they cannot read at the level of their peers. This has consequences for learning and behaviour as well as social and emotional development.

The Learning Support Team have noted that children who are referred because of reading difficulties consistently score below the benchmark in the area of phonological awareness as measured by The Sutherland Phonological Awareness Test SPAT-R (Neilson, 2003).

The goal of this program is to provide a model of explicit teaching that could be scaled up in the school. It is hoped its use will be sustained over time to become an embedded teaching practice that promotes inclusion. A secondary goal is to improve student outcomes in reading in Year 1 through the explicit teaching of phonological awareness (Sam, 2007, p.36).

Sam indicated that her project addressed the complex skills of blending and segmenting, after the review of sound and word discrimination, syllables, rhyme
identification and production. As a result of the implementation of this research-based project, Sam believed that teachers have the capacity to implement reforms that can positively impact student outcomes.

1.1.1.18. 4.4.5.1. *Sam’s reported program implementation integrity*

Sam described her project and its implementation with great clarity. She explained that she employed an implementation integrity checklist and interviews to confirm whether teachers incorporated the key features of explicit instruction in the phonological awareness lessons (See Table 4.2). The existing record relating to the efficacy of explicit instruction is described in the account of Mary’s project and will not be reiterated here. Sam reported that the SPAT-R (Nielson, 2003) and DIBELS Phonemic Segmentation Fluency (PSF) probes were administered pre and post instruction to determine changes in student phonemic segmentation fluency scores. Sam’s project identified that SPAT-R provides a diagnostic overview of skills involved in early literacy development and PSF measure assesses a student’s ability to segment three- and four-phoneme words into their individual phonemes fluently. The PSF measures are different to the DIBELS measures implemented in the other cases. Sam’s project identified that she selected this measure as evidence based research shows that phonological awareness is a foundational reading skill that is best taught explicitly (Carnine, Silbert, & Kameenui, 1990; Ellis, 2005; Stanovich, 1986 as cited in Sam, 2007, p.51).

The implementation integrity checklist completed by Sam in her survey identified that she used DIBELS materials and guidelines with consistency. She reported that she used a number of tools to calculate results or evaluate the explicit teaching
program. These tools included the use of Sutherland Phonological Awareness Test or SPAT-R (Nielson, 2003) and DIBELS PSF measures. The SPAT-R was used to measure the improvement in the children’s phonological awareness. This test allowed not only general performance to be evaluated but also included individual test items for syllable counting, rhyming, blending, segmenting and manipulation. “This test is easily administered and effectively identifies deficiencies in a comprehensive range of phonological skills” (Robinson, in Foreman, 2005 as cited in Sam, 2007, p.34). Sam reported that this information can be validated by the use of a curriculum based measure or CBM. The DIBELS Phoneme Segmentation Fluency will be to monitor the mastery of at risk students. The implementation integrity of explicit teaching will be measured by an observation checklist completed by the literacy support teacher when mentoring the teachers (Sam, 2007). Sam’s project also identified that an evaluation questionnaire was completed by the teachers.

1.1.19. 4.4.5.2. Results of the project

Sam reported that her project commenced in 2007 with initial SPAT-R (Neilson, 2003) scores collected on three classes of Year 1 students. In Class A the range of scores on the initial SPAT-R was from the 2nd to the 95th percentile. The median score was in the 49th percentile. A total of 21% of children in Class A fell below the benchmark of the 25th percentile; 13% were in the critically low range which is below the 10th percentile. In Class B the range on the SPAT-R was from the 2nd to the 89th percentile. The median score was in the 36th percentile. 19% of children fell below the benchmark; 13% were in the critically low range. In Class C the range on the SPAT-R was from the 2nd to the 95th percentile. The median score was in the 30th percentile. 32% of children fell below the benchmark; 18% were in the critically low range.
low range. In each class only one child had a reading age of less than six years as measured by the Waddington Reading Test.

Sam continued to explain that student’s instructional reading levels as measured by running records from the PM Benchmark (2000) ranged from 0 to 24. By the end of Kindergarten, 52% of students did not meet the school benchmark of level five. Sam identified that all the children who had critically low scores on the SPAT-R failed to meet the reading benchmark of level five. She added that DIBELS PSF measures were also used during the project to monitor student progress. Sam stated that by the conclusion of the project, PSF and an analysis of the pre and post test SPAT-R results showed improvements across all students.

The children at high risk and some risk were monitored weekly during the project using the progress monitoring forms of the DIBELS PSF. The post-test results show that the children at high risk or some risk of not achieving the benchmark score of 35 correct segments per minute fell in all three classes. In Classes A & B 26% of the class moved out of risk compared to 9% in Class C. At the conclusion of the project 83% of class A were at low risk, 86% of class B were at low risk and 45% of Class C were at low risk. Four percent of Class A remained at high risk, 0% of Class B remained at high risk and 15% of Class C remained at high risk (Sam, 2007, p.63).

Sam suggested that teacher attitudes on rating scales were positive towards phonological awareness and explicit teaching. She calculated that one hundred percent of teachers reported using explicit teaching strategies after the project’s conclusion.
The implementation integrity checklist and weekly interviews were used to confirm whether teachers incorporated the key features of explicit instruction in the phonological awareness lessons. All teachers were observed using the scripted program and they reported finding it helpful. On one occasion when the teacher anticipated her absence the next day the program was left for a casual teacher to use. Implementation integrity was strongest for Teacher B who followed the lesson plan verbatim. Monitoring, feedback and verbal clarity were particular strengths for teachers A1 and A2. On occasions both teachers A1 and A2 reverted to questioning the students rather than modelling and leading (Sam, 2007, p.62)

1.1.1.20. 4.4.5.3. Scaling of the project

During the first interview Sam reported that her project continued to be sustained at her implementation setting in 2009. She also stated that she has also implemented a similar project at another primary school setting. No additional details were identified through the exploration phase.

4.3.6. Case 6- Meg (Year 3-Peer Assisted Learning- Spelling)

Meg and Sam implemented their individual projects at the same setting. Meg added that the setting is in a “lower socio economic working class area outer western suburb of Sydney”. Meg’s program targeted spelling skills and addressed a need identified through Basic Skills Testing. The project title is: Peer Assisted Learning and its use as an Intervention Strategy in the Improvement of Spelling skills. Meg stated that:

The project was originally designed to address the problem of poor spelling skills in Year Three in classroom writing tasks. Previous results from the
Basic Skills Tests (2005-2006) in both Literacy and Numeracy assessments revealed that on an overall basis, the students did not perform well in the spelling skills area (Meg, 2009, p.1).

During the interviews Meg’s reported that Peer-Assisted Learning Strategies (PALS) Reading and PALS Math were developed to help teachers accommodate diverse learners and to promote their academic success. Meg’s project identified that PALS is listed among best evidence-supported math programs on the John Hopkins University website. The What Works Clearinghouse found that Peer-Assisted Learning Strategies instructional program to have potentially positive effects on reading achievement for elementary-age children. PALS was designed to be used with all students in kindergarten through 5th grade (Meg, 2007). Meg did not provide evidence on PALS yet it has been successfully implemented in Iowa, Minnesota, Oregon, Tennessee, Texas, and other states. The findings of Fuchs, Fuchs, Thompson & Svenson (2001) and Rohrbeck, Ginsburg-Block, Fantuzzo & Miller (2003) presented evidence for the effectiveness of PALS. The work of Calhoon (2005), Marchand-Martella, Martella, Bettis & Blakely (2004), Allor, Fuchs & Mathes (2001), and Fuchs, Fuchs & Kazdan (1999) all used variations of PALS to determine its effectiveness.

Meg indicated that she identified poor spelling skills when she read student’s work. She added that she decided to implement her project with Year 3 because she was confident that two of the Year 3 teachers would be willing to help the following year. Meg explained that the initial phase of the project was implemented over a four-week period. Fifty students participated in a 20 minute structured paired spelling session using the seven-step SPELLER structure (Keller, 2002). SPELLER uses
visual imagery, systematic testing, and auditory reinforcement on a daily basis
through the use of peer assisted learning strategies. It is a Class Wide Peer Tutoring
strategy (CWPT) that has proven to be effective for increasing students’ mastery of
spelling (Keller, 2002). Working for twenty-minutes a day, all students take turns
playing the role of tutor and tutee, and they use the SPELLER strategy in order to
learn their weekly spelling words. The Waddington Diagnostic Spelling Test was
administered as a pre and post test to determine changes in students spelling ability.
Meg stated that the Waddington Test was easy to use and was a useful tool for
diagnosing literacy difficulties. Meg provided less information than other
participants through the interviews, surveys and her permanent product record.

1.1.1.21. 4.4.6.1. Meg’s reported program

implementation integrity

Meg determined the effectiveness of her Peer Assisted Learning project through
teacher and student surveys and the weekly monitoring of spelling scores. Meg
stated that she completed checklists on both students and teachers to monitor the
implementation of correct Peer Assisted Learning Procedures. She administered a
pre and post Waddington Diagnostic Spelling Test to determine any change in
individual student’s spelling skills. Meg’s responses to the implementation integrity
checklist stated that some pre existing project material and guidelines were used
without consistency (See Table 4.2). No additional information on the integrity of
the implementation of Meg’s project was located.

1.1.1.22. 4.4.6.2. Project results

During the interview Meg reported that 98% of students experienced improvements
in their spelling scores when using peer assisted learning strategies within the first
four weeks of the project. Meg’s explained that through observation and the use of checklist data she was able to determine that all teachers involved in the project adhered to the peer assisted learning procedures and consistency was maintained. Her permanent product record was consulted to gather additional information on the spelling scores but this data was not available. Meg’s project did confirm that spelling scores had improved in 98% of students, yet no additional data was located. It also stated that not all teachers implemented the project with integrity in 2008 as they did not maintain consistency in their use of the instructions that Meg had provided. Her interview responses did report that the school executive did decide to scale the project in 2008 without consulting the staff.

1.1.1.23. 4.4.6.3. Scaling of the project

During the first interview Meg reported that her project was sustained in 2007. She stated that it became partially sustained in 2008 and was extinct by 2009.

4.4. Summary of the reported implementation integrity of the projects

This section presents a table that summarises the responses to the implementation integrity checklist that participants individually completed in the surveys. It is followed by a summary of the status (level at which the project is implemented or sustained in the school setting) of the projects at annual intervals.

All participants individually completed an implementation integrity checklist which was included in Part 1 of the Survey. Table 4.2 provides summary of these responses. A description of how the implementation integrity of each project was maintained was identified within the previous descriptions of the cases. Each research participant through the use of the methods they selected determined the effectiveness of individual projects.
Table 4.2
Summary of the reported implementation integrity checklist provided by research participants

<table>
<thead>
<tr>
<th>Checklist questions</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did your project use a pre-existing program with guidelines or instructions (for example, CBM, CBA, DIBELS)?</td>
<td></td>
</tr>
<tr>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
</tr>
<tr>
<td>Chris</td>
<td>Meg</td>
</tr>
<tr>
<td>Mary</td>
<td></td>
</tr>
<tr>
<td>Wilma</td>
<td>Diane</td>
</tr>
<tr>
<td>Sam</td>
<td></td>
</tr>
<tr>
<td>If so were they utilized?</td>
<td></td>
</tr>
<tr>
<td>Chris</td>
<td></td>
</tr>
<tr>
<td>Mary</td>
<td></td>
</tr>
<tr>
<td>Wilma</td>
<td></td>
</tr>
<tr>
<td>Sam</td>
<td></td>
</tr>
<tr>
<td>Diane</td>
<td></td>
</tr>
<tr>
<td>Sam</td>
<td></td>
</tr>
<tr>
<td>Meg</td>
<td></td>
</tr>
<tr>
<td>Was there consistency in the implementation of program features?</td>
<td></td>
</tr>
<tr>
<td>Chris</td>
<td></td>
</tr>
<tr>
<td>Mary</td>
<td></td>
</tr>
<tr>
<td>Wilma</td>
<td></td>
</tr>
<tr>
<td>Sam</td>
<td></td>
</tr>
<tr>
<td>Meg</td>
<td></td>
</tr>
<tr>
<td>Diane</td>
<td></td>
</tr>
<tr>
<td>Were suggested project materials, such as workbooks or manuals used throughout your project?</td>
<td></td>
</tr>
<tr>
<td>Chris</td>
<td></td>
</tr>
<tr>
<td>Wilma</td>
<td></td>
</tr>
<tr>
<td>Sam</td>
<td></td>
</tr>
<tr>
<td>Meg</td>
<td></td>
</tr>
<tr>
<td>Mary</td>
<td></td>
</tr>
<tr>
<td>Diane</td>
<td></td>
</tr>
<tr>
<td>Were results collected and calculated in accordance with guidelines or instructions provided?</td>
<td></td>
</tr>
<tr>
<td>Chris</td>
<td></td>
</tr>
<tr>
<td>Mary</td>
<td></td>
</tr>
<tr>
<td>Wilma</td>
<td></td>
</tr>
<tr>
<td>Meg</td>
<td></td>
</tr>
<tr>
<td>Diane</td>
<td></td>
</tr>
<tr>
<td>Sam</td>
<td></td>
</tr>
<tr>
<td>Was the project evaluated using the guidelines or instructions provided?</td>
<td></td>
</tr>
<tr>
<td>Chris</td>
<td></td>
</tr>
<tr>
<td>Mary</td>
<td></td>
</tr>
<tr>
<td>Wilma</td>
<td></td>
</tr>
<tr>
<td>Meg</td>
<td></td>
</tr>
<tr>
<td>Diane</td>
<td></td>
</tr>
<tr>
<td>Sam</td>
<td></td>
</tr>
</tbody>
</table>

In summary, a review of the implementation integrity information provided by each research participant identified that four of the six participants implemented programs that were resourced with scripted instructions. Meg and Diane implemented programs that were not resourced with scripted instructions. Diane implemented her project in accordance with implementation guidelines; however, the project was not calibrated for secondary school students. Meg reported that she adhered to the peer assisted learning procedures and that consistency in implementation was maintained, however, additional information gathered from her Master’s project identified inconsistencies in the way teachers implemented the spelling lessons and gave the spelling tests in 2008 (Meg, 2006).
4.5. **Summary of the status of the Projects**

This section presents a summary of the standing of the projects within their setting at the end of each academic year of the study. The data in Table 4.3 was collected through the Master’s projects, interviews and surveys (described in the methods chapter) and presents an overview of each project's status from 2006 to 2009. Definitions of each category being: extinct; partially sustained; sustained; scaled within settings; and scaled beyond settings, provide guidelines to maintain clarity and consistency across all responses.

### 4.5.1. Definitions of Operational Categories:

1. Project extinct refers to projects that are terminated at the conclusion of the academic year.
2. Partially sustained refers to projects that are operational beyond the year of implementation (course requirement) however the project form was not fully consistent with program guidelines.
3. Sustained refers to projects that continue to be utilized in the same capacity as it was in the implementation year.
4. Scaled within setting refers to programs that have been utilized with staff/students beyond those that were planned at the initial implementation year and within the same setting.
5. Scaled beyond setting refers to programs that have been utilized in settings beyond the original implementation setting.

Note implementation year refers to year the project was undertaken as a part of the CSU course requirement.
### Project Status

<table>
<thead>
<tr>
<th>Project Description</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 Chris/Primary Pilot Program for tracking reading fluency of year 2 students</td>
<td>Established and sustained</td>
<td>Scaled within setting</td>
<td>Partially sustained</td>
<td>Extinct</td>
</tr>
<tr>
<td>C2 Mary/Primary CBM Identifying students who are “at risk” with literacy at the beginning of Kindergarten.</td>
<td>Not yet started</td>
<td>Established and sustained</td>
<td>Scaled within setting</td>
<td>Scaled beyond setting</td>
</tr>
<tr>
<td>C3 Diane/Secondary Reading tutor program years7-10</td>
<td>Established and sustained</td>
<td>Established and sustained</td>
<td>Scaled within setting</td>
<td>Scaled beyond setting</td>
</tr>
<tr>
<td>C4 Wilma/Primary Oral reading fluency: Using CBM for assessment and Instruction for year 6</td>
<td>Not yet started</td>
<td>Established and sustained</td>
<td>Scaled within setting</td>
<td>Scaled beyond setting</td>
</tr>
<tr>
<td>C5 Sam/Primary Explicit teaching: Improving foundational reading skills in year 1</td>
<td>Not yet started</td>
<td>Established and sustained</td>
<td>Scaled within setting</td>
<td>Scaled beyond setting</td>
</tr>
<tr>
<td>C6 Meg/Primary Peer assisted learning and its use as an Intervention strategy in the improvement of spelling skills for year 3</td>
<td>Established and sustained</td>
<td>Sustained</td>
<td>Partially sustained</td>
<td>Extinct</td>
</tr>
</tbody>
</table>

Chris, Mary and Meg commenced their projects in 2006, while Diane, Wilma and Sam commenced in their projects in 2007. By the end of 2009, two primary school based projects became extinct and four projects (three primary and one secondary) had been scaled beyond the implementation setting. Of the four projects that were scaled beyond their implementation setting in 2009, two participants remained at the setting in 2009 and two did not. Of the two extinct projects, one participant remained at the setting in 2009 whilst the other did not.
The following section presents the data gathered through the three phases of this study; the exploration, explanation and the expansion phases. Collectively this data presented the RTP factors that had an impact on the status of the direct implementation of research projects in unique classroom and school settings.

**4.5.2. Exploration Phase**

The first phase of this study, the exploration phase, presents the theoretical assertions identified in relevant RTP literature (see literature review). This knowledge was then used as a framework to guide the study. The review of literature was set within the parameters of inclusion and investigated five main bodies of literature that worked to link educational research and practice efforts. As investigations that directly examined the implementation of validated research projects into schools were limited, the literature search continued to investigate the areas of Professional Development (PD) and Teacher Education (TE) that were specific to the translation of research to practice. The Comprehensive School Reform (CSR) literature was examined as it constituted a large-scale effort, with guidelines specifically requiring the implementation of research based practices at scale. The Concerns Based Adoption Model (CBAM) was also examined as it represented a longstanding model, related to adopting change. The purpose of including CSR and CBAM was to further identify more specific factors not generated by the RTP, PD and TE literature. Table 4.4 presents the factors that were identified through the investigation of the five bodies of education literature that are said to influence research to practice (RTP) and make educational settings more responsive to the needs of all students. These areas were treated extensively in the literature review and are summarised as a source of data here.
Table 4.4 provides an overview of the total number of references located within each of the five areas investigated. It presents a breakdown of the number of references identified within each of those literature areas. Not all references were related to education as some presented medical and other perspectives. Details of the literature search refinement process are identified in the literature review. In brief, studies were only included in the reviewed literature if they appeared in a published peer reviewed journal and identified specific RTP factors that assisting in translating the work of researchers to address the needs of students in school settings. Descriptors introduced to refine the EbscoHost search included: research into practice, professional development, teacher education, comprehensive school reform, concerns based adoption model, inclusive education and education. Articles were only selected for this review if they specifically discussed the use of research-based programs in primary, secondary and university settings.

Each of the studies was read and categorized according to the project and participant details and the RTP factor identified. The consistencies in RTP assertions across both intervention research and commentary claims are presented in Table 2.2 (Chapter 2 the literature review). Commentary based claims were greater in number than claims that emerged from an empirical study of research to practice. Articles that made reference to PD in fields other than education and did not refer to the RTP gap were not selected for this review. TE represented an avenue which links the efforts of researchers and educators who work in inclusive education environments to enhance RTP endeavors (Everington & Hamill, 1996; Golder, et al., 2005; Villa & Thousand, 1996c). Like PD, TE was expected to have a RTP agenda however the TE literature indicated that while RTP remains a concern, it was often only discussed in depth (Carnine, 1997a; Darling-Hammond, 2006a; D. Fuchs & L. Fuchs, 1998;
Gravani, 2008). The Comprehensive School Reform initiatives yielded information about the way reform projects were implemented through its focus on bringing research based practice to scale in public education. The Concerns Based Adoption Model and related research focused on deepening RTP knowledge through increasing an awareness of change related elements. CSR and CBAM searches presented the strongest representation of research-based knowledge when compared to commentary claims, than the RTP, PD and TE searches.

Table 4.4 Number of located and used references within each literature search area

<table>
<thead>
<tr>
<th>Key literature search area</th>
<th>Number of references located</th>
<th>Number of Commentary References found</th>
<th>Number of research examples found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research to practice</td>
<td>1158</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>Professional development and research to practice</td>
<td>296</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Teacher education and research to practice</td>
<td>440</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Comprehensive school reform</td>
<td>1168</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Concerns based adoption model</td>
<td>187</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Total references located</td>
<td>3249</td>
<td>34</td>
<td>32</td>
</tr>
</tbody>
</table>

The following section presents a summary of the major themes and factors that were derived from the review of RTP and the related literature.
4.5.3. Exploration phase

1.1.1.24. 4.6.3.1. What factors have been identified in literature that contributes to sustaining RBP in inclusive educational settings?

The factors that were consistently identified through the RTP literature as being contributors to the status of research-based projects are presented in Table 4.4. Increasing detail and less commentary-based assertions were evident as the literature search moved from the initial RTP search through to the investigation of the CBAM literature. The factors presented in the RTP column predominantly represented the assertions gained through commentary claims. PD with a RTP agenda went further in identifying ways RTP knowledge could be shared with educators. PD assertions supported the concerns identified about the possible reasons for and solutions to the RTP gap. They promoted the need for comprehensive, coordinated, and sustained efforts in the area of teacher education to reduce the RTP gap.

The investigation of the TE literature built on factors identified in PD research. The main need identified in the teacher education literature was the need to collaboratively link university and school efforts (Capizzi & Fuchs, 2005; Darling-Hammond & Baratz-Snowden, 2007; D. Fuchs & L. S. Fuchs, 1998; Golder, et al., 2005; Gravani, 2008; Korthagen, 2004; Winn & Zundans, 2004b). Collaboration, defined in the teacher education context, referred to researchers working with practitioners to address their questions and needs. The exploration of the TE literature built on prior RTP knowledge to present TE as an avenue for researchers and educators who work in inclusive education environments to enhance RTP endeavors, through involving practitioners in the research process. This was said to
encourage a deeper comprehension and ownership of research efforts (Everington & Hamill, 1996; Golder, et al., 2005; Villa & Thousand, 1996b).

Through the Comprehensive School Reform initiative, previously identified collaboration factors were further described through the identification of the need for a complete theory and framework. A need for well-aligned system and policy goals with feedback and evaluation features built into projects rather than added on at the end was identified (Bain, 2007a; McLeskey & Waldron, 2006; Slavin, Madden, & Educational Resources Information Center (U.S.), 2001).

The Concerns Based Adoption Model work provided information on the changing needs of stakeholders and environments and provided an insight into the variables that required attention for the successful transition of research to practice (Hall & Hord, 1987; Hord, Rutherford, Huling-Austin, & Hall, 1987; Loucks-Horsley & Stiegelbauer, 1991).

Collectively the information collected from the RTP literature provided an accumulation of knowledge about which factors are said to contribute to the research to practice gap. They presented the value in establishing links between researchers, teachers and schools and this became more specific as they moved through the stages of the review of the literature. Table 4.4 presents a summary of the RTP factors categorized within themes. See Table 2.1 and table 2.2 in the review of the literature for additional details re studies, factors and authors.
Table 4.4
Research to Practice key themes and related factors

<table>
<thead>
<tr>
<th>RTP</th>
<th>PD</th>
<th>TE</th>
<th>CSR</th>
<th>CBAM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Responsiveness of research</strong></td>
<td><strong>Responsiveness</strong></td>
<td><strong>Responsiveness of university education programs</strong></td>
<td><strong>Scalability and Educational Power</strong></td>
<td><strong>Research based change process</strong></td>
</tr>
<tr>
<td>Useable</td>
<td>PD programs must respond to genuine teacher needs and concerns</td>
<td>Joint partnerships</td>
<td>Use of scientific research</td>
<td>Responds to personal growth in knowledge and skills</td>
</tr>
<tr>
<td>Practical</td>
<td>Reflective of student needs</td>
<td>Research based</td>
<td>Validated with scalability potential</td>
<td>Process not an event</td>
</tr>
<tr>
<td>Accessible</td>
<td>Responds to classroom contexts</td>
<td>Effective delivery</td>
<td>Joint partnerships</td>
<td>Change is a highly personal experience</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>“Buy in” from all stakeholders</td>
<td>Good contextual fit</td>
<td>School level design</td>
<td>PD should occur over time</td>
</tr>
<tr>
<td>Evidence based</td>
<td>Engagement in pursuit of genuine questions, problems and solutions</td>
<td>Valued by students</td>
<td>for school level influence</td>
<td>and be dynamic in addressing</td>
</tr>
<tr>
<td>Manageable</td>
<td>Need for opportunities and time for practical development of classroom based skills and knowledge</td>
<td>Address real life concerns</td>
<td>Effective adoption</td>
<td>participant needs</td>
</tr>
<tr>
<td><strong>Collaboration</strong></td>
<td><strong>Collaboration</strong></td>
<td><strong>Collaboration</strong></td>
<td><strong>Comprehensiveness</strong></td>
<td><strong>Collaboration</strong></td>
</tr>
<tr>
<td>Shared responsibility, understanding and ownership</td>
<td>Joint partnerships</td>
<td>Joint partnerships</td>
<td>Need for complete theory framework</td>
<td>Shared ownership of the elements involved in and resulting from the change process</td>
</tr>
<tr>
<td>Collegiality</td>
<td>Mutually identified boundaries, structures and purposes</td>
<td>Involving practitioners in the research process</td>
<td>Intersection of process and content</td>
<td>Shared acknowledgement of changing needs of stakeholders and environments</td>
</tr>
<tr>
<td>Mutual respect</td>
<td>“Buy in” from all stakeholders</td>
<td>Multiple level feedback</td>
<td>Adequate and complete design</td>
<td>Understood by all</td>
</tr>
<tr>
<td>Cooperation</td>
<td>Engagement in pursuit of genuine questions, problems and solutions</td>
<td>Responsive, cohesive course structures</td>
<td>Self reinforcing</td>
<td>United</td>
</tr>
<tr>
<td>Communication</td>
<td>Need for opportunities and time for practical development of classroom based skills and knowledge</td>
<td>Mutually aligned norms, expectations and roles</td>
<td>Well aligned system and policy goals</td>
<td>Awareness of shared ownership and individual strength</td>
</tr>
<tr>
<td>Substantive frequent interaction</td>
<td><strong>Scientifically based instructional practices</strong></td>
<td>Critical in developing links between theory and practice</td>
<td><strong>Supportive environments and structures</strong></td>
<td><strong>Support through change</strong></td>
</tr>
<tr>
<td>Feedback</td>
<td>Evidence based and proven to be effective</td>
<td>Support</td>
<td>Emergent feedback</td>
<td>Sustained assistance</td>
</tr>
<tr>
<td></td>
<td>Central to students learning</td>
<td>Addresses teacher enthusiasm</td>
<td>Evaluation as an emergent function</td>
<td>Support structures</td>
</tr>
<tr>
<td></td>
<td>Viewed as credible by teachers</td>
<td>Awareness of fatigue and exhaustion</td>
<td>rather than an add on</td>
<td>must change as needs change</td>
</tr>
<tr>
<td></td>
<td>Comprehensive</td>
<td>Support personnel qualities and attributes</td>
<td>Use of systemic technology</td>
<td>Beyond individuals</td>
</tr>
<tr>
<td></td>
<td><strong>Support</strong></td>
<td>Need for theory to make TE more coherent</td>
<td>Long term and consistent</td>
<td>From multiple</td>
</tr>
<tr>
<td></td>
<td>Teachers need to feel sufficiently prepared</td>
<td>Adequate depth and time to research based practices</td>
<td>Well developed</td>
<td>agencies and agendas</td>
</tr>
<tr>
<td></td>
<td>Networks</td>
<td></td>
<td>student materials, teacher manuals, assessment and training.</td>
<td>Within realistic time frames</td>
</tr>
<tr>
<td></td>
<td>Sufficient</td>
<td></td>
<td>Professional Lives acknowledgement of the need for recognition and reward</td>
<td></td>
</tr>
<tr>
<td></td>
<td>instructional time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adequate resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ongoing stakeholder support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Limiting competing demands to achieve a balance of multiple agendas</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The way in which the factors from the five key literature areas added depth to the research to practice knowledge was specifically presented in the literature review (Chapter two). In brief, researchers have described ways to involve practitioners in the development, implementation, and maintenance of empirically validated interventions. Others have compared variations in the intensity of professional development programs and described models used to deliver research-based
education to teachers. CSR efforts have provided an insight into factors that have resulted from large scale RTP efforts and CBAM introduces elements associated with change. Researchers focused their efforts on working more collaboratively with practicing teachers to improve the trustworthiness, accessibility, usability, attractiveness and responsiveness of research.

The knowledge and assertions associated with each area was identified through their interrelationship and links to research based knowledge relevant to our classrooms, schools and systems. These key RTP themes derived from factors identified through the culmination of the literature search predicated the research questions and consequently the progression of the research and tool development. Significant areas of literature that yielded relevant guiding information on ways to bridge the research to practice gap were identified. These areas of review fell broadly from theory to practice assertions that claim to impact upon the transition of research to practice. As a result of this search that incorporated knowledge from five linked areas, a broader knowledge base that may assist in a deeper comprehension of the factors that impact the transition of RTP has been produced.

The collation of these factors presented in Table 4.4 generally fell across three themes; collaboration, responsiveness of research and support (see literature review for distillation of themes). They were used as guiding and non-exclusive themes to examine factors that have impacted upon the practical transition of RTP within and across the six specific cases. Although the RTP literature was predominantly based on commentary claims, the investigation of the other bodies of literature has been used to create the list of succinct and detailed RTP factors. This list represents the factors that have been asserted repeatedly through the RTP literature. It distills the
RTP factors and presents a more detailed account of what is described in the literature review. The validity of these claims is examined through six RTP cases. A list of 16 succinct and detailed RTP factors follows:

1. Research to practice is influenced by the extent to which educators can be involved with research projects. Such involvement can result in partnerships that share responsibility and ownership and build a sense of credibility among stakeholders in the results of research and the research process (Fuchs & Fuchs, 2001; L. Fuchs & D. Fuchs, 1998; J. Klingner, et al., 2003; J. K. Klingner, et al., 2003; Klingner, Vaughn, Hughes, & Arguelles, 1999; Vaughn, 2001; Vaughn & Klingner, 2000).

2. Research into practice works most effectively in systems and schools that have clear goals promoting the use of research. When these goals are shared and research projects respond to genuine questions, problems and solutions the RTP gap can be reduced (Fullan, 1993, 1999; Fullan & Hargreaves, 1992; Sparks & Richardson, 1997).

3. Research projects that have shown or considered ways to address scalability have a greater likelihood of bridging the research to practice gap and exerting whole school influence or effect (Bain, 2007b; Bain & Hess, 2001; Slavin & Madden, 2001). Hurley, Chamberlain, Slavin, & Madden (2001) add to endnote

4. Research projects are enhanced when communication and feedback from many stakeholders (from all levels) is ongoing and substantive (emergent function) (Ahwee et al. 2003; Bain, 2007; Foegan et al., 2001; Foorman & Moats, 2004; Fuchs & Fuchs, 1998, 2001; Vaughn et al., 2001).

5. For research based projects to be successful, they need consistent, long term support that addresses teacher enthusiasm, personal qualities, fatigue and changing needs is required (Bybee, 2005) add to endnote (Hall & Hord, 1987; Hord, Rutherford, Huling-Austin, & Hall, 1987; Loucks-Horsley &
6. Well-developed student materials, teacher manuals and training within realistic time frames promote the effective adoption of research-based projects (Billups, 1997; Carnine, 1997; Gersten et al., 1997; Lloyd, Weintraub, & Safer, 1997; Sydoriak & Fields, 1997; Zahorik, 1984).

7. Acknowledgement, recognition and reward for the use of research based practices will enhance their use (Bain, 2007b).

8. Technology has many functions that can help make RTP more efficient. When it is accessible and used by stakeholders it can enhance the implementation, sustainment and expansion of research based projects (Bain, 2007b).

9. The use of validated research based projects is enhanced if their outcomes are viewed as credible by stakeholders, elicit positive student attitude and address genuine teacher and student concerns and needs (Borman, Hewes, Overman, & Brown, 2002; Foorman & Moats, 2004; Slavin, 2004).

10. Limiting the competing demands placed on practitioners is required if research based practices are to be implemented and sustained (Gersten, et al., 2007b; Miller, et al., 2005).

11. Sufficient and ongoing instructional time, preparation and resourcing are contributors to the effective use and promotion of Research based practices (Ax, Ponte, & Brouwer, 2008; Everington & Hamill, 1996; Foorman & Moats, 2004; Golder, et al., 2005; Gravani, 2008; Villa & Thousand, 1996c).

12. Research based projects that have a complete implementation strategy through being comprehensive, accessible and practical will be more successful. When these features are woven into the projects design the engagement of all parts of the project can have a reinforcing effect that can further enhance its success (Darling-Hammond, 2006b; DETYA, 2000; Francis, 2002; Gunstone & Northfield, 1993; D Sydoriak & M Fields, 1997).

13. Teacher education has the capacity to promote the use of research based practices when subjects or courses in a preparation program are intentionally
linked, reinforcing key ideas and enabling students to build both a big and small picture understanding such practices. When such courses directly respond to teacher needs through a clear and consistent approach the bridge between research and practice can be further reduced efforts (Capizzi & Fuchs, 2005; Darling-Hammond & Baratz-Snowden, 2007; D. Fuchs & L. S. Fuchs, 1998; Golder, et al., 2005; Gravani, 2008; Korthagen, 2004; Winn & Zundans, 2004a).

14. Research based projects can be enhanced when teachers and researchers work together to develop links between theory (researchers perspective) and practice (classroom teachers perspective). This can contribute to teachers feeling sufficiently prepared which creates an avenue for research based practices to be effectively used in classroom (Everington & Hamill, 1996; Foorman & Moats, 2004; Golder, et al., 2005; J. K. Klingner, et al., 2003; Villa & Thousand, 1996a).

15. An awareness of changing stakeholder and setting circumstances is required to ensure research-based practices are be responsive to individual and setting needs (Hall & Hord, 1987; Hord, Rutherford, Huling-Austin, & Hall, 1987; Loucks-Horsley & Stiegelbauer, 1991).

16. An understanding by all stakeholders that the implementation and sustainment of research based practices is an ongoing process not an event enhances their continued use (Abbott et al., 1999; El-Dinary, Pressley, Coy-Ogan, & Schuder, 1994; Horsley Loucks-Horsley, 1998; MacArthur, Schwartz, Graham, Molloy, & Harris, 1996; Schumm & Vaughn, 1995; Vaughn, Hughes, Schumm, & Klingner, 1998).

This list reflects well-documented commentary claims and insights from related large and small research based projects. The following section identifies the alignment between the perceptions of the research participants and these literature-based assertions. The first interviews provided an opportunity for open ended discussion and were all conducted over afternoon tea, in the same location and used the same questions. The guiding questions were framed to give participants an
opportunity to introduce their project and present the factors and events that they felt contributed to the status of their projects. A description of all the data collection tools was provided in the Methods chapter.

4.6. Factors identified by participants prior to the introduction of RTP knowledge identified in the literature

This second part of the exploration phase presented the factors that contributed to the direct implementation and status of the individual projects from the participant’s perspective and prior to sharing RTP knowledge identified in the literature with them. These responses were collected to ensure that participants were not influenced by the literature when they were describing their individual RTP experiences. The responses also created a baseline to establish the perceptions and priorities unencumbered by any expectancy that may be created by the prior knowledge of the literature. These responses that were not influenced by the literature were then compared to the RTP factors identified through the literature. The explanation phase used the literature to build on the responses collected through this exploration phase. This was done through the practical examples that provided additional details of how the factors unfold in classroom settings. During the exploration phase the participant data was collected through one to one interviews (see Appendix 4.1 for a list of interview questions) to respond to the second research question:

What RTP factors were identified through initial teacher interviews?

Responses were collected individually and compared across case studies. The practical examples given through the six cases provided details of the factors that enabled or inhibited the implementation and sustainment of the research-based projects in each school setting.
Responses from individual participants were collected through the first round of interviews. These responses were compared to the list of 16 succinct RTP factor statements which summarised the literature based assertions and knowledge. Although participants were not influenced by the introduction of literature during the first round of interviews, most of the asserted RTP factors were identified by participants prior to any RTP literature being introduced.

The following section identifies the similarities and difference in participant responses across the six cases. The responses articulated by participants identified two major themes; support and teacher education (described in the literature review). Closer investigation of these responses identified connections with 15 out of the 16 succinct research to practice statements that were identified as a result of the review of the literature (see summary of the literature review). Participant responses are presented using the two broad themes of support and teacher education as articulated by participants. The responses are further categorized using the 16 RTP factor statements as a frame of reference, within these two themes. Responses are presented under the RTP statements in the order in which they were prioritized by participants. The RTP factor not identified by participants during this exploration phase is also presented. This section concludes with a comparison of the number of factors identified by participants and the integrity with which the project was implemented.

4.7. **Participant responses to the first round of interviews**

Practical examples that support the impact of RTP factors can be linked to more than one RTP statement, however the examples are presented with the RTP statement they best align with.
4.7.1. Support

Support factors were presented first as they were identified as the major contributor to the successful implementation and status of projects by all participants prior to the introduction of the literature. Support factors were identified through 12 of the 16 RTP factor statements that were derived from the literature. This section presents specific RTP statements, followed by practical examples of elements of these statements described by participants during the initial data collection phase (the exploration phase).

1.1.1.25. 4.7.1.1. Shared responsibility and accountability

Sufficient and ongoing instructional time, preparation and resourcing are contributors to the effective use and promotion of Research based practices (Ax, et al., 2008; Everington & Hamill, 1996; Foorman & Moats, 2004; Golder, et al., 2005; Gravani, 2008; Villa & Thousand, 1996c)

Research to practice is influenced by the extent to which educators can be involved with research projects. Such involvement can result in partnerships that share responsibility and ownership and build a sense of credibility among stakeholders in the results of research and the research process (RTP factor statement 1)

All participants described elements of RTP factors statements 1 and 11. The need for sufficient and ongoing time to prepare, instruct and make resources required to implement and sustain projects was consistent across all cases. Partnerships that share responsibility and ownership of project commitments with the support of colleagues and school leaders were also prioritised by all participants.
They (staff, students and school leaders) were very keen. Staff support was good as was ownership, they were very keen and they all wanted to get on board and have a go (Wilma, 2009, p.2).

They all endorsed it (Diane, 2009, p.4).

You need to have ownership; people really have to own it. Resourcing was really important and the staff need to feel supported so they knew they did not have to do it all on their own (Chris, 2009, p.4).

Peer support and being part of a team had a significant impact (Sam, 2009, p.3).

1.1.1.26. 4.7.1.2. Resources

Well developed student materials, teacher manuals and training within realistic time frames promote the effective adoption of research based projects (RTP factor statement 6)

All participants reported that adequate staffing and materials reduced the demands on individual stakeholders and assisted in uniting school based staff in supporting the projects and each other. This was identified as being essential to the implementation and sustainment of all individual projects. The following quotes provide practical examples of how a united approach can assist the sustainment of projects;

We made sure that the booklets were all prepared for everyone when they were needed. There was goodwill towards it, everyone just helped when it was needed and got on with it (Mary, 2009, p.5).
People were united in owning the decision to implement DIBELS, as this was a way of addressing the schools needs and it served our purpose! We were able to see the gains that the students were making and that the teachers had something tangible to go back to that was consistent and standardised was great (Chris, 2009, p.1).

1.1.1.27. 4.7.1.3. Consistent and long term support

For research based projects to be successful, they need consistent, long term support that addresses teacher enthusiasm, personal qualities, fatigue and changing needs is required (RTP statement 5)

Limiting the competing demands placed on practitioners is required if research based practices are to be implemented and sustained (RTP statement 10)

An understanding by all stakeholders that the implementation and sustainment of research based practices is an ongoing process not an event enhances their continued use (RTP statement 16)

All participants presented a need for consistency in enthusiasm, preparation time, and student and teacher resources (RTP factor statement 5). It was also identified that long-term support is required for programs to be sustained and scaled within schools (RTP factor 16). The projects that were scaled and those that were extinct presented different examples of the inclusion and withdrawal of these supports through their direct RTP experience. Examples of support ranged from the need for adequate staffing to self determination and web support. The following examples present a range of support factors identified by participants:
It was the time, it was difficult to work with time constraints. I don’t know how I would the time for the project if I had been full time then. I was working three days a week, so I was going in on my two days off to make up for things for the kids, laminating etc. (Meg, 2009, p.4).

Support had to be consistent; it couldn’t stop after the project was up and running otherwise it would be bound to fail. You still needed time to ensure you could answer questions and coordinate materials etc. (Sam, 2009, p.3).

You know there is a fabulous web site that goes with it (DIBELS) so if people are interested they can go and do their own investigation (Mary, 2009, p.3).

1.1.1.28. 4.7.1.4. Shared ownership and responsibility

Research projects are enhanced when communication and feedback from many stakeholders (from all levels) is ongoing and substantive (emergent function) (RTP statement 4)

Research projects that have shown or considered ways to address scalability have a greater likelihood of bridging the research to practice gap and exerting whole school influence or effect (RTP statement 3)

All participants identified the need for shared accountability and a positive attitude from stakeholders if projects are to be sustained in classroom applications. Three participants highlighted that shared ownership and responsibility can be enhanced if research based projects falling within the schools focus:
By having the whole school focused on reading and literacy last year certainly helped the project. Everyone had to know about it and be able to talk about it and act on it (Mary, 2009, p.5).

Once it became part of the whole school assessment plan it sought of meant everybody had to take ownership and it was mandatory, they didn’t have a choice (Wilma, 2009, p.4).

....suggested that this needs to become part of school policy. When it did become part of the school policy it was a given, a non negotiable, everyone owned it, it was part of the long term school plan (Sue, 2009, p.4).

1.1.1.29. 4.7.1.5.  Shared goals

Research into practice works most effectively in systems and schools that have clear goals promoting the use of research. When these goals are shared and research projects respond to genuine questions, problems and solutions the RTP gap can be reduced (RTP statement 2)

All participants presented that support was most effective when all stakeholders shared the goals of the project. This united approach identified in Mary, Wilma and Sue’s quotes about the projects becoming part of the school policy, presented the impact of staff members being required to implement and sustain the projects. Mary identified that when staff were part of the decision to make the project part of the school policy stakeholders shared the goals and they were more supportive of the common goals. Meg presented another perspective of the importance of support and shared ownership, through an account of what happened when it did not exist:
I did a staff development day and part of that day was me presenting the Peer Assisted Learning which is what I had done for teachers the previous year, I could tell straight away that some said “I don’t want to do this. This is not really going to work!” I knew that some of the teachers will want to do it and some of them won’t want to. Also I did not have the time to go into the classroom and check how it is being done, I went in and demonstrated as much as I could with the time limit I had. It was so hard working with them and you could tell they were not going to do it (Meg, 2009, p.3).

1.1.1.30. 4.7.1.6. Technology

Technology has many functions that can help make RTP more efficient. When it is accessible and used by stakeholders it can enhance the implementation, sustainment and expansion of research based projects (RTP statement 8).

Mary supported the need for projects to become a whole school focus and she added that her project itself was a support when it became part of the whole school plan as it was user friendly and directly addressed the needs of her students. Mary was the only participant who presented the advantages of stakeholders being able to access website support to enhance the use of projects, during the exploration phase.

I think it was user friendly, it was simple there was no real long process that you had to go through to up skill staff to use it, they could always refer back to the web. Another thing is that we, as a whole staff decided that our focus for the year was going to be reading and literacy.....I really can say comfortably now that in our school there wouldn’t be a child that slipped under the radar and that has not been picked up, even a kid in the “some risk” category (Mary, 2009, p.6).
Leadership

An awareness of changing stakeholder and setting circumstances is required to ensure research based practices are be responsive to individual and setting needs (RTP factor statement 15)

The use of validated research based projects is enhanced if their outcomes are viewed as credible by stakeholders, elicit positive student attitude and address genuine teacher and student concerns and needs (RTP factor statement 9)

All six participants affirmed the significance that the principal and leadership team had on the implementation and sustainment of research based projects in schools. Four of the six participants commented on the impact of a change in leadership whilst their projects were being implemented. In three of these four cases the new leaders supported the projects and they continued to be sustained. Mary, Meg and Diane shared examples of the positive impact of support from the school leaders. Mary’s experience highlighted the importance of consistency in the support from the leadership, even when there is a change of personnel. Diane provided an example of the benefits of the support principal and executive as she struggled with the lack of instructional reading materials for secondary students:

It is the same personnel that were there as well, that does help, even though we had a change of principal, but the new principal is supportive and is keen. So from that point of view it can work! I think having the new principal on board could have been different if he had said no, I don’t agree with that, it might just be all over. It might just depend a lot on leadership support. You know, I think that might be probably one of the main factors as to why it is still there (Mary, 2009, p.6).
They (principal and executive) all endorsed it. I think the research helped make a bigger improvement; it increased the level of improvement. Now I have got to say there wasn’t a hell of a lot of research on it. It was very difficult to find anything in a secondary setting on the reading program and so what there was, I took what they said and used those strategies and my principal and staff supported it (Diane, 2009, p.4).

Meg’s case identified that even when stakeholders have concerns about asking the principal for support, if they are approachable and share the project goals they can have a positive impact and promote the use of the project:

“In his favour, the Principal was on board right from the word go. I was a bit nervous about asking but he was brilliant. Another Principal may not have been so happy” (Meg, 2009, p.4).

Wilma provided another example of the impact of a supportive and enthusiastic principal. She also commented on the variance in support levels of individual teachers. Wilma shared her experience of the strength of the support of the leadership over staff support by stating that once the project became part of the whole school assessment plan it became a permanent, non negotiable feature of the school:

Because the Principal was so supportive he was very keen for it to become a part of our whole school assessment plan. Once it was adopted that meant we assessed the kids at the beginning, the middle and at the end of the year. Once it became part of the whole school assessment plan it sort of meant everybody had to take ownership and it was mandatory, they didn’t have a choice (Wilma, 2009, p.3).
The support of the school leaders was a factor that was described as being critical to the implementation and sustainment of research-based projects across all cases. The above examples identified how the support of the leadership team positively contributed to the implementation and sustainment of projects. The following example described how a change in leadership and their lack of support negatively contributed to the status of my research based project. The following account confirmed the importance of the support of the leadership team through the negative impact of the withdrawal of support by the new principal and deputy. This example describes the result of the lack of ownership and commitment by leaders can have on a project. This lack of support from school leaders ultimately led to the projects extinction:

We had new staff come on board and we happened to lose a principal and a deputy at the same time. I don’t think the ownership was there or the commitment was there. They were not there through the school review when the needs were identified. I think they had a different agenda and I think this particular project did not fall into their agenda. I think that was probably one of the strongest factors towards the projects extinction (Chris, 2009, p.4).

4.8. Teacher Education

All six participants suggested that teacher education efforts should directly respond to teacher need through an approach that is clear and consistent. All participants shared thoughts on the usefulness of the Master’s Course and its contribution to the sustainment of all projects. Participants described the usefulness of the course in a number of ways. Comments about the depth of understanding of what constitutes research based projects were shared. All participants suggested that the consistency
in the structure and design of the course had assisted in their ability to comprehend new knowledge and to be able to share this knowledge with their staff. Participants reported that presentations to school staff were modelled on the information gained and the structure demonstrated through the course. The resonating consistent notion shared by participants was that the course was effective as the aims of the university were the same as the school aims, so what was learnt through the course could be shared with staff.

Teacher education factors were identified through 3 of the 16 RTP factor statements that were derived from the literature. This section presents specific RTP statements with examples of ways they were described by participants during the initial data collection phase (the exploration phase). The following section present direct examples of the way participants articulated the impact of the Master’s course on their individual cases.

4.8.1. Depth of knowledge

Teacher education has the capacity to promote the use of research based practices when subjects or courses in a preparation program are intentionally linked, reinforcing key ideas and enabling students to build both a big and small picture understanding such practices. When such courses directly respond to teacher needs through a clear and consistent approach the bridge between research and practice can be further reduced efforts (RTP factor statement 13)

Meg stated that the Masters course provided a depth of knowledge gained which she tried to share at her implementation setting:

We really had to go into depth with it. I had to know Peer Assisted Learning inside out. I knew where it worked, how many studies had been done, why it
worked, so I had all that research to back up what I was saying to teachers. I presented all that to them, I suppose because I had done it in depth, nothing was on the surface it was so thorough.

I know I was trying to give them (staff members) the knowledge that I had gained from my course. For example that when I did my power point presentation, we had done a power point presentation in a previous assignment on Collaboration so I presented my Peer Assisted Learning power point, it was like I was doing an assignment in an assignment I tried to be as thorough as I could, so all the previous work that I learned I tried to put it into the project (Meg, 2009, p.2).

Mary described how the Masters course had a strong impact on her research based project. She identified that topics, such as assessment were covered in depth and how she was able to share research knowledge gained from the course with her staff:

Well, as a result of the Master’s course I came up with this project. It was a result of doing an assessment evaluation unit that really brought it together for me. Because I never heard of the DIBELS actually she (lecturer) really, really made us think about what assessment was. Why are we assessing? Was it assessment just for the sake of assessment? Or are you teaching towards the test or was it an assessment to guide your teaching?

The value of that questioning was important, so I think that is why I chose to work with the younger kids in infants as well as I felt they needed help and I could reach them and identify a larger number using this. It was intensive, but you did not have to sit down for an hour per kid to do the assessment and stuff like that. Who has the time to do that?
We were presented with a lot of the research across different subjects. That was brought back to my staff when we were doing this project and devising it. You know, learning about collaboration, working as a team, what was going to be good for the whole school and a lot of the stuff I had learned through my university course, I was able to use when we were devising that program and implementing it in the school (Mary, 2009, p.3).

4.8.2. Structure of the course

Research based projects that have a complete implementation strategy through being comprehensive, accessible and practical will be more successful. When these features are woven into the projects design the engagement of all parts of the project can have a reinforcing effect that can further enhance its success (RTP factor statement 12)

Sam also commented on the structure of the course and described how the Masters course assisted her in being able to cater for the needs of the staff and students at her implementation setting:

I really think that the way our course was structured was to build up our capacity. I guess I modelled my instruction on the way the course was structured so we had done all those things on collaboration, in-service stuff, we had to do the power points and the pre and post tests. I guess I tried to model what I did on what we had done on the course as the aim was the same. Anything that we had done in that course was building towards the project. Anything that we had to do, that was important, we had to try and put that in (Sam, 2009, p.2).
My comments about the Masters course also identified that it had a strong impact on the implementation of my research-based project. Consistency, collaboration and feedback that were positive features of the course were transferred to my implementation setting:

I think the consistency in the Masters course across all subjects, was replicated in our setting because everybody knew what they were going to expect. I think the collaborative approach through the Uni masters project, the feedback; the consistency was replicated in my setting (Chris, 2009, p.3).

The consistency in comments on the Master’s course confirmed the positive impact it had on the implementation and sustainment of individual projects. Sam summarized the strong impact of the Masters course well as she compared course and school aims. Sam stated “like the course, the school must support teachers by addressing their needs and capacity. The course aims are the same as our school aims” (Sam, 2009, p.4).

4.8.3. Collaboration and sufficient preparation

Research based projects can be enhanced when teachers and researchers work together to develop links between theory (researchers perspective) and practice (classroom teachers perspective). This can contribute to teachers feeling sufficiently prepared which creates an avenue for research based practices to be effectively used in classroom (RTP factor statement 14).

Diane introduced the sense of inclusion as the major take away from the Masters course. She referred to her interpretation of course components that were meaningful. Diane commented on the adaptation of features of the course to suit the needs of her secondary setting. She also referred to her moving from one secondary
setting to another and identified the positive impact collaboration had on the status of her project:

The whole sense of inclusion was the driving force of the whole masters. I was trying to get these kids included in every aspect of their education. The other thing that specifically clicked with me was the little bit about DIBELS and the reading, while I didn’t take that on as strictly as it was, because it was really for infants and primary. I took parts of that and put it into a secondary setting, that whole aspect about reading fluency. It was the CBM that drove it and every time a student didn’t improve we intervened more. There was also that book, I can’t think of the name of it, the book it’s in my study (Interviewer intervenes and states Self Organising Schools after a long pause). Yep that’s right! There were things in there that I reflected on especially because I was going between the two schools, trying to make my thing happen elsewhere. In my job in the secondary setting, it is all about collaboration, if I didn’t collaborate with everyone it still wouldn’t be running as it is now in my new school (Diane, 2009, p.2).

Wilma’s expanded on these school and course links when she described how her staff had identified the strong research knowledge base she had acquired through the course. She also made reference to the parent support raised as a result of having their children involved in the research based project and how the experience contributed to promoting the link between home and school:

I think one fact of it (the course) was that I had a pretty strong knowledge base in the topic I was doing because I had done a lot of the background work in the course and people recognised that. It wasn’t just that I was trying to
introduce this tool that I thought was really good. They understood that it was research based, I had studied it, I had implemented it and it was a positive move. I think that was the most important thing. I also think that for parents it (the research based project) was particularly positive. I got letters back from parents saying what a great thing it was and that they were very proud for their children to be part of a research project and they actually asked for ways that they could work on their children’s reading fluency at home, so that was a way for us bridging the school from home gap (Wilma, 2009, p.3).

4.9. RTP factors not identified in the literature

4.9.1. Role of the student and the parents

Wilma described the enthusiasm of the children and the parents at her setting. She described ways they interacted and engaged with the project and identified a competitive element which encouraged some students. This factor was not identified in the RTP Literature:

The kids were really tapped into it. I mean the ones on the project. We did self assessment with them so they were graphing their own results everyday taking it home at the end of the week. That was great they loved that competitive edge to it, they could see in black and white if they were improving or not.

Parents were able to see those results too because all the teachers were showing the DIBELS booklets at parent teacher interviews. They had the school reports and the booklets and quite a few parents said “that is really great!” Now I can now see what you are looking for and how I need to
improve. They could see if they were making a lot of errors or if they were
decoding very well but were just really slow they just needed practice.

The parents were comfortable with it. If they had a child in Year 2 and
another in Year 6 it was all the same format. It is easy for a non educational
person to very quickly understand what the point of it is. It is not like another
test, like trying to explain a NEALE or something like that, it takes a lot more
input but the DIBELS you can explain very quickly.... this is what we do, this
is the information we gain from it and this is what we need to improve if the
score isn’t what we would like (Wilma, 2009, p.4).

Another factor that was not introduced through other cases was will power and
determination. Diane was the only participant who attributed the success of her
project implementation to her determination. Diane stated that because she was
doing the course and doing the professional readings, she was the driver of the
project. She indicated that she influenced her peers and she owned the project:

    I was adamant I was going to succeed. I think I drove it! I also think that I
    had the principal and the school executive behind me. I was my own driver. I
    took other teachers with me. I kept on about it and the teachers are still doing
    it (Diane, 2009, p.2).

4.10. **RTP factor not identified by participants**

Acknowledgement, recognition and reward for the use of research based practices
will enhance their use (RTP factor statement 7)
The only RTP factor statement that was not raised by any participant during the exploration phase of this study was that acknowledgement; recognition and reward for the use of research-based practices would enhance their use.

4.11. Integrity of implementation

Sam provided a unique perspective on the importance of integrity of the implementation of her project during this exploration phase. She stated that as she knew and had built a rapport with her cohort, she believed that the project implementation was easier. She linked the importance of collaboration, flexibility, a research base, implementation integrity, principal and leadership support within her project (15 of the 16 RTP factor statements). Sam identified that the contributors to her projects success also included the status allocated to projects and implementation of projects as part of the school policy:

I think collaboration the fact that is was collaborative and I also think that is was research driven, the whole review really helped refrain what I wanted to do, I think that made a difference to. Another thing to is, that when I did it, the uni teachers really insured that we did implement with integrity. You had to monitor that implementation integrity, you couldn’t just start the course and waffle back at the end and make sure. It was that the whole way through you had to be monitoring how it was going, if it was a bit obscured you had to fix it up. That was not only with implementation with the teachers but monitoring it with the children because it was explicit teaching there was that whole notion of testing, if this child has not quite got there you retest then you reteach. You also needed flexibility in approach... in your monitoring and you had to be flexible in your design. The other thing really is support
from your principal and the Exec that really makes a big difference, just in terms of time and resources and giving it status. That is where it surprised me that it did continue. I really did not expect it would be so ongoing. I think that is because the co-ordinator at that stage was also the coordinator of learning support she saw what happened and she took it back to the Exec and stated that this needs to become part of school policy (Sam, 2009, p.2).

4.11.1. Comparison of the RTP factors identified by individual participants and the integrity of the implementation of their projects.

Sam and Wilma’s responses to the data collection tools during the exploration phase of this study identified 15 out of the 16 RTP factor statements. When compared to the depth of information they presented on the integrity of implementation, there was a correlation between the strength of their implementation and the number of factors identified. Mary and I identified 13 out of the 16 RTP factor statements. We also both used project guidelines consistently and monitored the teacher’s use of those guidelines. Diane identified eight and Meg identified 6 out of the 16 RTP factor statements. Diane modified her project implementation to cater for the needs of a secondary setting and Meg reported that some teachers were not interested in implementing the project according to the set guidelines provided. Those participants that reported the strongest integrity of implementation details within their cases are the same participants that identified the greater number of RTP statements prior to the literature based knowledge being introduced to them.
4.11.2. Summary of the Exploration Phase

All participants articulated the need for various forms of support and the positive impact of the Masters Course. Additional investigation identified that participants presented elements from 15 out of the 16 succinct RTP statements asserted through commentary pieces and related intervention research. These RTP factors were identified by participants through the direct implementation of their projects prior to these literature based factors being introduced to them. The need for teachers to be able to use projects to address the needs of their students was also identified as a high priority across all cases. Wilma and Sam both stated that their projects became part of their whole school policy. This resulted in an increase in status being given to their project which contributed to them becoming an integral part of the school life.

Mary was the only participant who mentioned accessible technology through her comments about web support during this initial exploration stage. Wilma expanded on the RTP literature and identified the positive impact gained through the parental support experienced at her setting. Diane also expanded on the literature through her reference to self determination. Sam raised the importance of implementing research projects with integrity. Wilma identified how research based projects can support home and school links and Meg raised her concerns regarding the strong impact of competing demands. I presented the importance of the support of leadership as I attributed the lack of leadership support to the extinction of my project. Meg suggested time constraints and competing demands were the factors which led to the extinction of her project.

Other RTP factors raised by participants that elaborated on literature based assertions were identified through this exploration phase. These factors included the benefits of
parental support in promoting the use of research-based practices and the advantages of projects becoming school policy. All participants expanded on the literature through identifying the benefits of replicating the consistency in knowledge and structures learnt through the postgraduate course, with staff at their setting. Reward, acknowledgment and recognition for the implementation of research-based projects was the only RTP factor that was not identified through the exploration phase. In brief, Sam and Wilma’s responses to the first round of interviews identified 15 out of the 16 RTP factor statements, Chris and Mary identified 13, Diane identified eight and Meg identified six RTP factors.

The following explanation phase goes further in identifying the specific details of how those RTP factors contributed to the implementation and status of the projects.
Chapter 5.  Explanation Phase Results

EXPLANATION PHASE RESULTS

The explanation phase is the second of three phases of this study. It presents a deeper comprehension of those RTP factors identified by research participants that influenced the implementation and subsequent status of their research projects. The explanation phase builds on the previous phase by extending the depth of the study to identify how RTP factors exerted an influence in each of the cases.

The explanation phase is informed by individual participant responses to Part 2 of the survey and semi structured interviews (see Methods Chapter for detailed descriptions of these tools). The master’s projects, which are accounts of projects written by individual participants, were also consulted as a data source through this phase. The comparison of the data collected through these three methods (responses to the survey items, the written projects and responses to interview questions) provides a detailed insight to how RTP factors impacted the projects and their status over the three-year period (2006-2009). These responses are then compared to the RTP factors identified in the literature. Collectively this information explains how the RTP factors identified by individual participants had an impact on the status of the six research to practice cases.

The explanation phase is divided into three sections. The first section presents a brief review of the data collection tools used during this phase. The second section presents a summary of the participant responses to the data collection tools, through the use of the 16 RTP statements as a framework. The third section compares the responses of participants between the exploration and explanation phases of the
study and additional RTP factors that were not identified through the literature are also presented.

In brief, participant responses were collected individually and then compared and contrasted across cases to respond to the following research questions:

How do identified RTP factors influence and contribute to the status of research-based projects in inclusive education settings? In what ways do those factors exert an influence?

5.1. **Review of data collection tools**

The survey and interview questions employed in this explanation section were derived from the RTP factors identified through the investigation of the literature (see literature review for RTP factors). As described in the methods chapter, participant responses collected through the previous exploration phase were used to inform the construction of the data collection methods used during this explanation phase. Questions were designed to encourage participants to provide a comprehensive and relevant explanation of how and why specific RTP factors contributed to the status of their project.

The use of the same questions and data collection tools and techniques made cross-case comparison possible. The purpose of employing this technique was to increase consistency and produce more specific response to build a deeper understanding of the impact of specific RTP factors.

5.2. **Part 2 of the survey.**

Part 1 of the survey identified details of individual participants and their setting (see Exploration phase). Part 2 of the survey comprised 75 items across three categories:
collaboration, support and, responsiveness of research. These areas represented the key themes asserted in the RTP literature as being significant to research to practice efforts. Participants were asked to rate whether each of the 75 factors were: blank [B], never [N], rarely [R], sometimes [S], mostly [M], or always [A] present during the implementation and sustainment of their projects in 2006, 2007 and 2008. Collaboration factors represented 23 items and included factors such as mutual respect and shared ownership among stakeholders, and ongoing and substantive communication and feedback.

Support factors were represented by 27 of the items and included examples pertaining to the impact of clear school goals that promote the use of research. Support items also sought to determine if research based projects responded to genuine questions, problems and solutions. Questions pertaining to the use of student materials, teacher manuals and training were included to gain details on what is required for the effective adoption of research based projects in school settings. Items linked to teacher preparation sought to establish if the participant teacher education experience had an impact on the use and scalability of research based projects. Teacher education items also sought to identify if the intentional linking of subjects in the preparation program reinforced key ideas through a clear and consistent approach.

The comprehensiveness, accessibility and practicality of research were grouped in a section titled the responsiveness of research. This responsiveness of research section of the survey consisted of 25 items. Data generated from these items sought to establish those factors that enhanced the usability, flexibility and accessibility of projects. The projects potential to be scaled and whether it could address the needs of
the whole school are examples of items within the responsiveness of research section.

Participant responses to the survey items were collected in 2009 and were based upon their retrospective perceptions of experiences from 2006 to 2008 inclusive (See appendix for complete list of factors and individual participant responses). Responses were collected at annual intervals over the three years (2006, 2007 and 2008) to identify the consistencies or changes in specific RTP factors. Table 4 presented the RTP factors that corresponded to the questions in Part 2 of the survey and an overview of participants responses to the survey are following and are presented in Table 5.1.

5.3. **Semi structured interviews**

Semi structured interview questions were informed by the data collected in the exploration phase. Participant responses to the survey items and the initial open-ended interviews were compared and analysed. These responses were then compared with the RTP literature. This information was used to determine the content of the semi-structured interview questions with the purpose of making them responsive and relevant. Examples of semi-structured interview questions included: How did features/elements of the university course have an impact on your knowledge and skill level in promoting the use of research-based projects? Can you describe the leadership style of your principal? A full list of interview questions is located in Appendix 5.

The data collection methods including the survey and interviews were planned, yet it was intended that flexibility in the design of interview questions be maintained (Ezzy, 2002). This staged process developing the questions aimed to generate
detailed responses as one data source was used to inform the next, in an attempt to make questions more specific and responsive. This developmental process intended that decisions regarding interview questions be made in a more fundamental way than if analysis was left until after all data collection was completed (Ezzy, 2002). This approach to designing the interview questions intended to elicit meaningful explanations on how and why specific RTP details were significant to the projects of individual participants. Participant responses to the RTP details were collated and compared to the 16 RTP literature factor statements to identify the similarities and differences in literature assertions and RTP factors identified through the implementation of research based projects.

5.4. Explanation phase participant responses

This section presents participant responses and is divided into three parts. The first part presents a tabulated summary of individual participant responses to Part 2 of the survey. The second part presents a narrative explanation of those RTP factors identified by participants that were collected through both the survey and semi-structured interviews. This section concludes with the presentation of additional RTP factors not identified in the previous phase.

5.5. Summary of the responses to Part 2 of the survey

Table 5.1 presents a summary of participant responses to Part 2 of the survey. These questions in the survey were derived from factors that were extrapolated from the RTP literature (See literature review). The factors are presented within three themes (collaboration, support, responsiveness of research). This section of the survey introduced the RTP factors to participants. Participants rated each RTP factor at annual intervals, in retrospect for three years (2006-2009). This collection of data
presents differences and consistencies in participant ratings for the three key themes over the duration of the project.
Table 5.1

Responses to RTP themes 2006-2009

<table>
<thead>
<tr>
<th></th>
<th>Frequency of Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Chris Collaboration</td>
<td>0</td>
</tr>
<tr>
<td>Support</td>
<td>0</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>0</td>
</tr>
<tr>
<td>Mary Collaboration</td>
<td>23</td>
</tr>
<tr>
<td>Support</td>
<td>27</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>25</td>
</tr>
<tr>
<td>Diane Collaboration</td>
<td>0</td>
</tr>
<tr>
<td>Support</td>
<td>0</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>0</td>
</tr>
<tr>
<td>Wilma Collaboration</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Support</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>Responsiveness</td>
</tr>
<tr>
<td>Sam</td>
<td>Collaboration</td>
</tr>
<tr>
<td></td>
<td>Support</td>
</tr>
<tr>
<td></td>
<td>Responsiveness</td>
</tr>
<tr>
<td>Meg</td>
<td>Collaboration</td>
</tr>
<tr>
<td></td>
<td>Support</td>
</tr>
<tr>
<td></td>
<td>Responsiveness</td>
</tr>
</tbody>
</table>

B=No response, N=Never, R=Rarely, S=Sometimes, M= Mostly, A=Always
Mary and Wilma were at the same setting and both commenced their projects at the start of 2007. Although Wilma did not implement her project during 2006, she responded to the survey items for 2006 as her project was developed during that year. The following section will present an overview of the rankings of factors identified by participants within the three identified themes.

5.6. Support

My rankings of all support factors were very strong during the first two years of the project. These ranks reduced significantly in 2008 as the project moved from full to partial implementation. My responses to the five items that changed most significantly across the duration of the project were those that related to leadership, time and continuity of support. These items fell from always in 2006 to never in 2008.

Mary’s rankings of all support factors were consistent and slightly increased as the project was sustained and scaled within her school. She allocated her highest rankings to items indicating that her project had adequate materials and ongoing peer and leadership support. Mary strongly identified the need for adequate time to be allocated to stakeholders for project instruction, implementation, maintenance and feedback. The only item that significantly increased in rank from never in 2007 to always in 2008 pertained to the level of communication from staff. This was consistent with the increase in status of her project.

Diane’s rankings of all support factors remained consistent from 2006-2008. She allocated her lowest rankings to the area of support in survey. Diane responded with rarely to three support items in 2007 and 2008. These items included; the stakeholders’ active involvement in the program, the awareness of the project leaders
on the demands of the project on stakeholders and the level of instructional support available. Diane strongly agreed with items that presented the need for ongoing leadership and technology support. Diane also promoted the need for regular meetings and feedback opportunities to be woven into the design of the project. Diane’s support for the factors did not alter as her project was sustained and scaled within and beyond her setting.

Wilma’s ranking of support factors was strongest during the implementation and sustainment of her project. During 2008 as the project scaled up within her setting, Wilma reduced her ranking of always on seven items to mostly. Her reduction in the ranking of support items related to instructional time and understanding provided by leaders, the need for evaluation as an emergent function and evidence of school based support for the project. Wilma strongly supported the need for stakeholders to experience the benefits of the project and that the positive responses displayed from project stakeholders can contribute to their sustained use. The need for well-developed resources and student materials with opportunities for communication and feedback continued to be strongly supported from 2006 to 2008 inclusive as her project was scaled.

Sam’s rankings of support factors reduced slightly as her project was scaled. Sam allocated consistently high rankings to items indicating a need for ongoing leadership support and communication opportunities. She also presented the need for well-developed student materials and positive peer responses. As the project scaled in 2008, Sam reduced her ranking on items related to the need for feedback being woven into the design of the project rather than being added on at the end (emergent feedback). Sam assigned her lowest rank of rarely to the item that sought to establish
whether regular meetings were held for stakeholders to share their experiences. Sam increased her ranking on this item to sometimes during 2008 as her project was scaled within and beyond her setting. When asked to expand upon these results, Sam stated that initially she worked with a small group of people and was allocated additional time to work on the project. She further explained that as the project success grew in terms of student gains and stakeholder commitment, an increase in the number of meetings was required.

Meg ranked 25 out of 27 support items with always (highest rank) and she ranked the two remaining items with never (lowest rank) during the implementation and sustainment years (2006-2007). The two items that were allocated the rank of never included the use of technology as a support and the identification of emergent feedback. During 2007, Meg increased the rank of never to always on the emergent feedback item. The higher ranks presented by Meg during 2006 and 2007 reduced significantly by 2008 as her project became partially sustained. Meg demonstrated consistently high rankings on items indicating a need for ongoing leadership support, teacher preparation and communication from staff on multiple levels. Meg increased her lowest rank of never to the item that sought to establish if technology was used as a support to always in the projects final year (2008), prior to its extinction.

5.7. Cross case comparison of support factors

Meg and I allocated the highest rankings of the support factors of the six participants in 2006 and 2007. Our rankings significantly reduced to become the lowest scores allocated to the support factors for 2008, prior to our projects becoming extinct by 2009. Mary and Diane’s ranking of support factors remained consistent as their projects continued to be scaled within and beyond their setting. Wilma and Sam’s
ranking of the support factors were strong as their projects were implemented and scaled within their setting. These rankings reduced slightly as Wilma and Sam’s projects were scaled beyond their setting.

5.8. Collaboration

My rankings of all collaboration factors were consistent over the first two years of the project. The factors I ranked as a priority in the collaboration section of the survey included the need for united efforts that are understood by all and the importance of developing links between theory and practice. The importance of aligning the understanding of course structures, goals and expectation between university staff and students (being the research participants) was also introduced as a key factor during this phase (referred to as mutual alignment). There was a reduction in my rankings of collaboration factors as the project moved from full to partial implementation. My response to the item that asked whether stakeholders were united reduced from always in 2006-2007, to never in 2008 as the project became extinct.

Mary’s rankings of collaboration factors increased on most items in 2007-2008. Her only significant reduction in rating was for the item asking if there was an awareness of changing stakeholder needs. Mary’s ranking of all other collaboration factors remained consistent or increased as the project moved through the implementation, sustained to scaled within and beyond her school setting.

Diane’s rankings of the collaboration factors did not change over from 2006-2008. She prioritized the need for united efforts and consistent feedback and the importance of aligning the same understanding of course structures, goals and expectation between university staff and students (being the research participants).
Diane’s rankings of collaboration factor remained consistent as the project moved from the implementation to scale within and beyond setting stages.

Wilma’s ranking of collaboration factors remained consistent other than a slight reduction in two factors from 2006-2008. These factors pertained whether stakeholders had joint ownership of the project and whether the project created links between theory and practice. Her rank reduced from always in 2006, to mostly in 2008 as the project became scaled within and beyond her setting. Wilma also identified the importance of aligning the same understanding of course structures, goals and expectation between university staff and students. United efforts that are understood by all was also introduced as a key factor as Wilma’s project was scaled.

Sam ranked the collaboration items for 2006, in Part 2 of the survey although her project did not commence until the following year. Her rankings for 2007 increased and reduced for 2008. Factors that were prioritized included the need for strong and united partnerships amongst stakeholders from various levels of responsibility. Sam also supported the need for opportunities for feedback for stakeholders across these levels of responsibility. The importance of aligning the same understanding of course structures, goals and expectation between university staff and students received Sam’s highest rating during the project planning, implementation and sustainment stages. Sam did not respond to the mutual alignment factor for 2008 after rating it with always for the 2006-2007 implementation and sustainment phases. Sam’s support for the item identifying the need for individual stakeholder strength to enhance the project, reduced from always in 2007 to sometimes in 2008 as her project was scaled within and beyond her setting.
Meg’s ranking of collaboration factors remained constant in 2006-2007 and reduced significantly in 2008. The factors Meg ranked as a priority included the need for well-aligned project and school goals and the awareness of changing stakeholder needs. Meg did not respond to two collaboration items in Part 2 of the survey. These items included the need for shared ownership and the importance of aligning the same understanding of course structures and roles between university academic staff and students. Meg accounted for this by stating that she prepared the resources for the project individually. Meg’s strong support for items identifying the need for a unified stakeholder approach and opportunities for teachers to contribute to the project reduced to a rank of rarely in 2008. The only item that Meg ranked consistently with always (from 2006-2008) was the alignment of the school and project goal item. Meg’s rankings indicated that although her project had the support of the principal and executive, it did not have the support of all stakeholders. Meg significantly reduced her rankings of collaboration items during 2008 as her project became partially sustained, prior to becoming extinct in 2009.

5.9. **Cross case summary of collaboration factors**

Wilma and Sam’s ranking of collaboration factors represented the strongest rankings of the six participants during their project implementation year. Sam significantly reduced her ranking of the collaboration factors as her project was scaled within and beyond her setting in 2008. Like Marys, Wilma’s ranking of the collaboration factors remained constant as their projects were scaled. Meg’s strong support for the collaboration factors remained constant in 2006-2007 as her project were implemented and sustained. Her rankings reduced significantly as her project became partially sustained in 2008 prior to its extinction the following year. My ranking of collaboration factors fell as the status of the project reduced. The lowest
score allocated to any theme over the data collection period was allocated to the area of collaboration in 2008 as my project became partially sustained.

5.10. Responsiveness of research

My rankings on factors that identified the responsiveness of research remained consistent for 2006-2007. Priority was given to the usability, trustworthiness and accessibility of research-based projects. During 2008 my rankings fell most significantly in factors pertaining to the fit of the project to my setting and whether it had flexibility in relation to changing setting needs. These factors were linked to the change of leadership in my setting and the ranks reduced in 2008 as the status of my project reduced prior to it becoming extinct.

Mary’s responses to those items pertaining to whether the project was responsive to research were ranked highly during 2007 and 2008 with the exception of the item about the use of the project data in addressing the settings needs. Priority was given to items pertaining to accessibility, feasibility and practicality of the project. Mary’s ranking remained consistent as her project became scaled within and beyond her setting.

Diane’s rankings once again remained consistent from 2006-2008. She ranked most items with mostly or always, except for the rank of sometimes allocated to the item about the project catering for a variance in staff abilities in 2006-2007. As the project scaled beyond her setting in 2008, Diane’s changed her response to this item from sometimes to mostly. Other rankings remained consistent as her project continued to be scaled.

Wilma’s strongest rankings for the responsiveness of research factors were allocated in 2006 and reduced in 2007 and 2008. The items that were allocated a reduction in
rank pertained to accessibility, feasibility and consistency of the project and the ability to respond to the personal skill growth of individual stakeholders. The number of “always” rankings allocated by Wilma fell as her project was scaled within her setting.

Sam allocated a rank to only two items during 2006 as this represented the planning phase of the project. She allocated strong ranks to other factors in this category in 2007 and a slight reduction in rank was evident in 2008. These items ranked by Sam in her planning stage (2006) identified that her project was always responsive to the needs of classroom contexts and always responded to genuine teacher concerns. Sam reduced these ranks of always to mostly during the project implementation year (2007). Sam allocated her lowest rank of sometimes to two items during 2008 as her project was scaled within and beyond her school setting. These factors related to the personal growth in the skills of stakeholders and the effective adoption of project features.

Meg’s allocated the highest rank of always to all the responsiveness of research items for 2006-2007. She significantly reduced these high rankings as the project became partially sustained in 2008. The only item that maintained the rank of mostly in 2008 was the item seeking to determine if the project features were adopted effectively. Meg’s ranked five items with sometimes as the project became partially sustained. These items related to personal and varying growth in the skills of stakeholders, the responsiveness of the project to classroom contexts and the project being valued by students. Meg’s responses to the factors in this category represented her greatest reduction in rankings as her project moved from sustainment to extinction in 2008.
5.11. **Summary of cross case responsiveness of research factors**

The rankings allocated to the responsiveness of research factors remained the most consistent in five of the six projects. Little change was evident in the four projects that were scaled and Meg’s project that became extinct. My rankings remained consistent as the status of my project strengthened and reduced significantly as my project became partially sustained and extinct.

**Summary of rankings of participants to part 2 of the survey**

Overall Table 5.1 identified that the projects reporting the highest rankings in their implementation year and the greatest reduction in these rankings from 2006-2008 were the cases that became extinct (Meg and Chris). The key differences between the rankings allocated by the participants included a gradual change in support for the identified factors being evident in the four cases that were scaled within and beyond their school settings. The extinct cases displayed a significant reduction in the ranking of factors as the status of their projects within their settings reduced. The exception to this was Meg’s ranking for the responsiveness of research factors, which only reduced slightly as the status of her project fell from sustained to partial sustainment.

The responsiveness of research category was allocated the greatest number of “always” ratings in all of the 4 out of 6 cases that completed the survey for 2006. Of the remaining two cases that implemented their projects in 2007, Mary also allocated her highest ranking of “always” to the greatest number responsiveness of research factors, whilst Sam was the only participant who allocated her strongest number of ‘always’ rankings to the support category. These high ratings were maintained in all projects as they were scaled within their school setting the following year. The
ratings that most significantly reduced during 2008 were Meg’s and mine as the status of our projects became partially sustained, prior to becoming extinct in 2009.

The most consist responses were evident in Diane’s ratings over the three years. Diane’s highest rankings occurred in 2007-2008 as her project was sustained and scaled within the implementation setting. The only change in Diane’s rankings over this period was a slight increase on the item describing the way the project catered for a variance in staff abilities.

5.12. Participant responses to the written survey responses and the semi-structured interviews

This section was informed by the written responses that participants provided to the short answer questions in the survey. These written responses were consulted to finalise the semi-structured interview questions. As a result the verbal responses to the semi-structured interviews clarified and added detail to the written survey responses. The responses to the semi-structured interviews were transcribed and cited throughout this phase. Masters projects were consulted to verify or add to the information collected. These results were analysed and are presented using the 16 RTP statements as a framework.

5.13. Shared ownership and responsibility

The majority of participants reported that research to practice is influenced by the extent to which school based staff can be involved with research projects. Of the six participants, five made reference to how such involvement can result in partnerships that share responsibility and ownership and build a sense of credibility among stakeholders. Diane was the only participant that did not make reference to this factor in her interview or written survey responses. Meg reported the benefits of
shared accountability experienced with the staff members that were involved willingly. She also described a lack of support for accountability of the integrity of the project by the primary teachers as it became scaled. My survey responses and interview comments presented both the benefits of shared ownership when it existed in my setting along with the negative impact of its withdrawal.

Each of the five participants expanded on their brief survey responses through the interview. During the interviews participants reported on different aspects of ways in which the joint involvement of stakeholders at their setting contributed to the status of their research projects. Sue described that when she went on leave the staff at her setting continued to implement the next stage of the project without her, which highlighted the positive impact that a shared initiative can have on the trajectory of projects.

I took and week or two’s leave and when I came back they had already implemented it. At first I thought Oh, O.K. but then I thought well they have taken ownership..... Shared ownership they became effective drivers all by themselves (Sue, 2009b, p.3).

Sue also commented on the importance of ensuring information on the project is clearly understood by staff members to make certain they are comprehending the aims and details of the projects. Sue added that the staff at her setting took more ownership of the project “as it went along” (Sue, 2009, p.3). Mary reported a similar experience about ownership building as the project unfolded. She added that this resulted due to her staff feeling comfortable with what was familiar to them.

When I started I certainly modelled in both Kindergarten classes. I began to withdraw and then the teachers took up more ownership but not initially.
Everybody knows where they are going with it. There is comfort and familiarity (Mary, 2009b, p.2).

Wilma reported that all the staff members who were involved in her project kept a professional journal. She identified that the collection of resources by all stakeholders encouraged shared ownership of the project:

They kept a professional journal along the way we met every week they would tell me things that were going well and things that weren’t. Through the collection of newspapers for reading passages, this brought us together.....the resource collection was a really good thing for ownership and collaboration [sic]. This gave us some type of ownership as we came up with the resources together (Wilma, 2009b, p.3).

Meg did not exclusively comment on shared responsibility and ownership. She linked the use of graphs to shared ownership in her response. Meg reported that her use of graphs had encouraged shared ownership within the staff at her setting as they could see that gains students had made were strong. Meg explained that the staff were motivated to remain involved in the project given the gains presented. She stated that as the graphs identified the growth in student abilities, they “didn’t go back to their old ways, as they saw the value in it” (Meg, 2009b, p.2).

Meg’s written survey comments gave a description of the events that occurred when staff members other than those who nominated to be in the project were instructed to participate.

Lack of support occurred when the project was up scaled to the primary classes. Some teachers were not willing to implement the strategy in the way
it was designed. There was a sense that they were implementing it because they were asked to by the principal. An opportunity was given to all teachers to observe the strategy by one of the original implementing teachers. Few teachers took advantage of this demonstration (Meg, 2009c, p.8).

I presented the positive impact of a staff that voluntarily united to identify the specific needs of students and collectively worked toward addressing these needs. I expanded on my survey responses and reported on the importance of equal parity and how it encouraged group interdependence and respect for each other during the interview. I also described the events that resulted in a reduction of shared ownership following a change in leadership:

When people were not involved in decisions that affected them and were told that they must do something different that was on top of their current loads, that was a real negative. It contributed to the demise of the project and even staff morale (Chris, 2009b, p.2).

5.14. **Genuine questions and clear goals**

During their semi-structured interviews all participants, other than Diane, expanded on survey responses and reported that projects are more likely to be sustained in their schools when they respond to genuine questions, problems and concerns. During the interviews Mary and Sam added that a shared language, which was comprehended by all stakeholders, was essential to creating effective communication. The identification of clear goals that addressed the identified needs of staff and students and was supported by stakeholders was also reported to be a beneficial to implementing and sustaining school-based projects.
Open dialogue allowed the freedom to bring in something that was very new. It was seen that we were looking at the research. Helping teachers by sharing some of the current research, we certainly did that in our staff meetings. This encouraged enthusiasm; it (use of research based programs to address reading concerns) became a big focus in our school as it was what our kids and teachers needed (Mary, 2009b, p.3).

Sam reinforced the need for common goals and regular communication from multiple stakeholders. Like Mary, Sam reported that a collaborative environment requires a common language that is understood by all stakeholders. Sam went further and stated that as a result of her RTP experience she discovered that collaborative environments might not always be harmonious. She suggested that respectful disagreeing might be required to establish clear goals and push boundaries.

To me a collaborative culture is where you’ve got people who are building a community of practice. You need a shared language, you need to be working together towards the same goal and I guess if it is a community of practice I guess it doesn’t necessarily have to be smooth running. I am someone who does not like to ruffle people’s feathers; I like things to be all harmonious. You realise that to make things happen and to bring about change you sometimes need to push the boundaries. You can’t do it without that shared language. That is what I was trying to do in the school. I was building that shared language with explicit teaching and also understanding what phonological awareness was. It was different to phonics and people needed to have a deep understanding of it (Sam, 2009b, p.3).
Wendy reported that all stakeholders were part of the team that were united by the common goal of implementing a research-based project in her school setting. She believed this evolved as a result of effective communication and that her being in the classroom made her more accessible to other staff members.

Being part of a team and setting realistic goals just evolved, so I think that it was because open communication was part of the project. Being in the classroom made me more accessible; this helped (Wendy, 2009b, p.2).

During the interview Meg reported that identifying the outcomes of the project in terms of student goals proved effective at her school.

As far as the project goes there was parity between the teachers, and myself we had a common goal and we could all see the value in it in terms of children’s outcomes (Meg, 2009b, p.3).

When asked about her reduced survey ratings allocated to items about stakeholder unity in Part 1 of the survey, Meg described the result of the school executive’s decision to scale the project and its goals without involving other stakeholders in the making of this decision. Meg explained that the decision to expand the project, due to its success, was made at an executive meeting and there was no consultation with other staff members. Meg explained that she became aware of the subtle negative responses of a small number of staff members as they were being told they were going to implement the project.

Meg explained that as time went on the original staff members remained committed to the project and continued to implement it with success. She described that the unity of staff members and communication opportunities did not continue to develop
with the expansion of the project. Meg went further and stated that although the school and project goals were aligned, the lack of support and ownership contributed to the projects extinction.

As a result of my project implementation, I reported in the survey that when the goals of the project were establish jointly by the staff to address identified student needs, respect and equal parity amongst stakeholders was encouraged. This explanation was extended through the interview as I described both the positive and negative results that can occur when systems, schools and staff work together toward the shared goal of promoting the use of research to address the needs of the setting.

As more people came on board and worked toward the project goals its momentum increased. I think as people saw it working they wanted to be part of it. People knew what was involved and that it was manageable so I guess the collaborative culture of respect for the programs goals and each other’s efforts just grew. Unfortunately, this collaborative culture just came to a sudden stop when we lost the three top leadership people at our school. We lost our principal, deputy and REC at once. The system put in a principal and deputy from the same school. They had no commitment to the project or its goals, yet said we could still run it but all resources, time and supports were withdrawn. So really the project had no real hope and became extinct (Chris, 2009b, p.3).

5.15. Scalability

All participants made reference to the way in which projects were scaled in both the surveys and interviews. The status or standing of the project within the original school was reported to have a strong impact on its ability to be scaled. During the
interviews all participants reported that research projects with participants who considered ways to address the scaling of their projects had a greater likelihood of being sustained and exerting whole school influence. Diane commented on the practical implications required in the scaling of her project to facilitate its sustainment in the high school setting.

The AP would deal with all the practical issues. We needed him to work around the calendar, excursions, incursions and exam timetable. Because of the demands of a high school, if the program wasn’t a priority it would get lost. This contributed to it being of high status, you knew you had succeeded when something was excursion and incursion free. This means if it was a priority, it was put into the school calendar and all excursions and incursions had to be worked around it. When things get to that stage they have a very high status and are embedded into the culture of the school (Diane, 2009b, p.4).

Mary’s survey responses reported that reading was a priority of the school and was valued by her staff. During the interview she stated that as her project used standardised measures and addressed this priority, it was given increased status and this contributed to its scalability. Wilma identified the value in using hard data to present student improvement. I also made reference to the projects potential for scalability in terms of rigor, benefit to the students and ease of implementation.

The staff valued it because it is standardised and it gives you great data. We were all part of the planning. As the school’s main focus was on reading this certainly gave it a lot of status and standing. In terms of the schools priorities
it (the project) was high, it is written into our school assessment plan, it was valuable it helped, it was not a new fad (Mary, 2009b, p.3).

It was recognised as something of value and that’s also why I believe it was adopted. It proved itself, it evolved and results identified the high level of improvement in students. You can’t back away from that, that is hard data (Wilma, 2009b, p.2).

The intensity and rigor was different, it was clearly beneficial and easy to implement. This helped it to be incorporated into the life of the school. It was owned by many and that was because it was of the benefits to the kids. It was even useful at parent teacher interviews. It also gave the parents faith in us and our teaching. This gave it scalability potential (Chris, 2009b, p.4).

Both Sam and Meg identified factors that were not mentioned by other participants in terms of the projects scalability potential. During the interview Meg did not respond exclusively to the scalability question. She made reference to the principal in her comments on the scaling of her project and did not separate the factors.

The principal was very allowing and it was given status because it was taken up and scaled. Yes it was up-scaled because it was encouraged by the principal (Meg, 2009a, p.3).

Sam reported on the intensity of the focus of the schools priority during the interview. Her response captured the sentiment of all six cases when she suggested that if projects displayed successful outcomes they gained traction. Sam extended this response further and stated that the project is strengthened if it becomes part of the schools policy.
Intensity of the focus on the project is a key to giving the project status. It is the intensity of key priorities, if it falls into a key priority, which seems to get more traction. It was the end of that year where the executive said this is going to part of our school policy. It became a greater priority as the success was evident (Sam, 2009b, p.3).

5.16. **Substantive and ongoing communication**

In the surveys and interviews all six participants reported that their research project was enhanced when communication and feedback from many stakeholders, from all levels, was ongoing and substantive. All participants reported that feedback and communication that occurred throughout each stage of the project was more effective than if it had been given at the end of each stage. Many comments made reference to the need for ongoing communication between stakeholders and how communication emerged as the projects unfolded. The following reports are representative of the reports made during the interviews of the ways in which communication occurred in the school settings. Mary and Sam described the meetings at their settings and Sam presented the importance of stakeholders having a common understanding of the language used. Diane reported on her use of technology to constantly communicate with her high school students and Wilma reported that a reduction of structured opportunities for communication was required as the project unfolded due to the increase in informal feedback and conversations.

We would email to communicate with each other all the time and the kids used it to work and gain results (Diane, 2009b, p.2).

Communication was open, all ideas were welcomed and everybody had an opportunity to discuss things. People were pretty contactable and
comfortable. Meetings were held looking at resources, research information and general practical details. So there were opportunities for regular analysis and constant feedback and we could all grow from that (Mary, 2009b, p.4).

Sam’s written survey responses were not isolated to individual themes or areas. She linked responses to the area of communication to other multiple factors. Sam stated that communication enhanced teacher enthusiasm through “collaboration, positive student outcomes, shared pattern language and building a community of practice” (Sam, 2009c, p.8). During her semi-structured interview Sam provided additional information describing how this communication occurred.

The start of the project involved face to face meetings with the teachers. There were weekly meetings. I tried to keep them as informal because I didn’t want to put any pressure on people. Each week I got them to fill in an interview sheet to assess any problems they may be having or what I can do to support them. You couldn’t do it without that shared language. That is what I was trying to do in the school was build that shared language with explicit teaching. Some meetings were informal at the start but when we got down to the professional development it became more formal and power point presentations were used. In small groups there was a lot of interaction and discussion. We talked about what the teachers already knew and what their interest in the project was. There was respectful disagreeing, constant feedback all the time and constant modelling (Sam, 2009b, p.3).

Wilma’s survey responses continued to identify and expand upon the importance of communication with parents and support staff. During the semi-structured interviews Wilma reported that the need for larger structured meetings reduced.
As the project went on there was a lot more talking between teachers, so there was less need for big meetings. The fact that people wanted to use it showed that the project was working and when the principal wanted it as part of the entire school assessment plan, no one ever said ‘no, we don’t want it’. So everyone was happy to take it on. So it was a combination of the timing and that it fitted the need for a more structured assessment plan perfectly. It catered for the need that was there. No structured feedback was needed as realistically if people didn’t want to use it, they wouldn’t have asked us about it (Wilma, 2009b, p.4).

The participants whose projects became extinct offered the least number of responses in relation to this communication factor. Both Meg and I allocated strong rankings and reported on the need for ongoing and substantive communication, yet the other four participants offered more detailed and frequent responses to this factor. Meg was the only participant who reported that through the project her school was being refurbished with open learning spaces and this changed the dynamic of the teaching teams when she responded to a communication question.

5.17. Consistent long-term support that considers the personal qualities of stakeholders

All participants reported various examples of support that enhanced the implementation and sustainment of their research-based projects across a range of school settings in both the surveys and interviews. Descriptions of the positive effect of the long-term support derived from being part of a cohort to the impact of using graphs to identify student gains were offered during the interviews. Three
participants also identified the difficulty in disseminating passion and how enthusiasm within a staff can spread with an increase in the depth of knowledge.

The following reports expanded on the survey comments to present the impact of the support generated from different stakeholders. Diane reported on practical elements such as the need for space to run her project.

Well we had the principal support but we needed the support of the librarian as well. We needed a big space as 50 people were involved. It meant we had to close the library, there was a little negativity, but it was OK as everyone was involved, it actually took on a life of its own. Everyone was on board so I think that whole community ownership was the strongest support (Diane, 2009b, p.4).

During the interviews Diane, Sam, Wilma and I commented on the strong impact of various stakeholders including the librarian, coordinators, colleagues and other staff members in the sustainment of our projects.

Being part of a cohort is really good. I was lucky because two of us were implementing it at the school. That made a big difference you weren’t on your own (Sue, 2009, p. 4).

The other person who was mostly involved was the Stage one coordinator. She was a driver who took it on and helped to sustain and scale it because she could see that it was effective. As the year went on the Assistant Principal also became very supportive as she had a strong focus on early intervention. Those two people carried more than the Principal. They both had a strong
background in literacy and early intervention. It became a greater priority as the success was evident (Sue, 2009, p. 4).

During the interviews Wilma and I reported on the impact on the support generated by personal qualities, such as teacher enthusiasm and the way in which this enthusiasm was shared. Comments in response to the support category were extended to link depth of knowledge and staff enthusiasm to this factor.

Staff enthusiasm just grew quickly as this project was something that really addressed a need that was reoccurring. The depth of knowledge on the project was another essential it would not have working without a deep understanding of how and why it was conducted the way it was. This also fostered enthusiasm, which drove it. The results themselves provided hard and fast feedback. People were engaging in professional dialogue constantly. The team would also attend staff meetings and provide feedback on various features on a regular basis, this ongoing interaction encouraged people to want to be on board and we could modify features of the program as we needed to (Chris, 2009b. p.2).

Often people are passionate about something, they drive it but it is hard to disseminate that passion to the whole school unless it is valuable, but then you remove that person and the whole thing goes to nothing, it just disappears. I think people were just ready for a change, it came in at the right time and people could see that it was valuable and that it was actually helping them. Because teachers are such busy people, things can’t take more time. With the DIBELS, they could see it was a quick assessment tool that showed them growth and they were able to act on the data that they got. Teachers also
didn’t have to take any money out of their class budget. They are tiny things but sometimes it is only little things like that that can pull things apart (Wilma, 2009b, p.4).

I think the biggest support for me was the battery of knowledge I had behind me. You can’t teach people unless you have the research and theory behind you. When you do go to implement it and you have the knowledge you can feel comfortable because I thought I knew what I was talking about at that time. That was the biggest thing for me (Wilma, 2009b, p.6).

All participants indicated that the projects themselves and their features became a support in school settings. Mary’s response during the interview reflected the sentiment of four participants as she reported that the quick administration of her measures was a strength of the project. Meg’s comments supported Mary’s use of graphs to display student results. Wilma’s report was reflective of the occurrences at five settings once the positive results became evident.

Teachers became familiar with the materials and how quick they were to administer, 3 to 4 minutes per child compared to all the measures they were using in the past that might have taken up to 20 Minutes. They could assess and reassess again so you see growth as the measures were so user friendly. I had very good teachers who were very open to it. That really supported me. I had a depth of knowledge and I could organise and co-ordinate others and that was a support really to others as well (Mary, 2009b, p. 3).

People could see that it was working, it spread through like word of mouth then all of a sudden everyone wanted to use it, which wasn’t necessarily what we intended to happen – we originally wanted to gradually increase use as
positive results were seen. Once the ball started rolling you just couldn’t stop it, so we just had to do the best we could. In retrospect that was a negative, because it went so fast, but then we turned it into a positive (Wilma, 2009b, p.5).

Basically by putting all the data on a spread sheet and highlighting. It was very visual people could see it is working they could see the growth within a couple weeks. I gave this feedback to the parents as well. If we are increasing the parent knowledge that almost increases the schools accountability. These parents were very supportive of the project (Mary, 2009b, p. 3).

Meg went further to provide a practical example describing how she was able to disseminate her passion for the project through the use of graphs. She also commented on the support gained from the parents of children involved in her project, which she originally identified in her response to the survey.

I had great depth of knowledge and passion and commitment. This was not easy to transfer to others but I graphed it all so that the teachers could see the results every week. This helped as buy in and enthusiasm increased because of the knowledge of its success. Parental support was also great as they could see the kid’s success (Meg, 2009b, p.4).

Mary and Diane were the only participants who proposed ways the education system could support the implementation of projects in schools. Comments were also made on ways the knowledge gained from the implementation of research based projects could be shared with others to promote a prevention rather than cure approach to learning.
Mine was literacy based. I am sure other peoples project especially the high school people, that were on behaviour and stuff like that; it would be so useful for us to hear. I mean at one stage when Lyn was there, it was mentioned that we might do some talks and presentations but then everything changed in the office, so new personnel had other agendas (Mary, 2009b, p. 3).

Systems could provide funding to schools to access experts to come to the schools to give professional development to the whole staff (Diane, 2009, p.3).

I never was asked when it was finished for any feedback on my project or any information at all. In actual fact as time has gone on I feel that they would not value my project at all. We have to get the projects out there as prevention is better than a cure (Mary, 2009, p.4).

5.18. **Resources and training**

All participants reported on the importance of training and resources to the success of their projects in both the surveys and interviews. A range of perspectives on the implementation of training and resources were reported. Sam was the only participant that promoted the need to identify the readiness levels of stakeholders during this phase. Meg’s survey response represented the sentiment of three participants when she linked training to the benefits of standardised information.

The key to successfully training our staff was finding where they were at and moving forward from there (Sam, 2009b, p.3).
Training was easy as we used the standardised information to empower instruction (Meg, 2009a, p.3).

Mary commented on the preparation of resources and the benefits in providing simple and easy to use resources during the interview. She also reported on how visual resources were created to assist in ongoing training and development.

I initially prepared all of resources in my own time as I really did not want to say to the teachers you have to get the resources ready. My aim was to make the project work, I believed in it strongly and I really wanted to transfer it to other people. The materials were all user friendly and you have all the instructions in front of you in bold. Then by putting all the data on a spreadsheet and highlighting it, it became very visual people could see it is working they could see the growth within a couple weeks. So the training was ongoing and we developed along with the program (Mary, 2009b, p.4).

During the interview I expanded on my survey responses to present an account of the benefits in using technology when training staff in research based projects. I was the only participant to report on what occurred when required well developed resources were removed.

The whole online information and data entry/access system was great. You would do training at school and then teachers would go over things online in their own time. It was relevant and they could easily get standardised results to empower your teaching. This feature really helped the training of our staff and the project gained traction over time. We were at the stage when teaching was becoming more informed with the use of results when the program came to a sudden halt. The new principal and deputy had no commitment to the
project, they didn’t want to know about it and said we could still run it but all resources, time and supports were withdrawn. Without the required time and commitment the project began to lose the gains that were made (Chris, 2009, p.4).

5.19. Reward and acknowledgement

Although the importance of recognition and reward for the implementation and sustainment of research-based projects was identified in the RTP literature (see literature review), no participant commented on the strengths of this factor during the explanation or exploration phase. Meg was the only participant who mentioned a lack of financial reward for the time required for the implementation and sustainment of her research-based project. No other participant reported on the need for recognition and reward for the implementation and sustainment of research-based projects in their responses to this or any other RTP factor.

I was working part time, I was meant to go in 3 times a week but I was going in four times a week during the project. There wasn’t any support financially, but I suppose I didn’t have to go in the whole day sometimes I could leave around lunchtime. But I was going in the extra day to prepare because you had a lot of resources to organize (Meg, 2009b, p.3).

5.20. Technology

All participants acknowledged that technology has many functions that can help make RTP more efficient. Only two participants out of six reported that they used technology effectively. Diane reported on how technology was used in her secondary school setting as an effective source of motivation and communication and I reported on its advantages when communicating and online data entry.
I bought a comprehension program, so the kids would read the book and then they would go on the computer to answer the questions. So the kids saw their results instantly and I would keep a record. It was also used to gain information from teachers, like a kid couldn’t come to reading today, so would email to communicate with each other all the time and the kids used it to work and gain results. It was good to communicate. I also have a data-base that the teachers can access, it has the kids results, pre and post tests are there to see improvement. It also allows the teacher to see if a child has been tested (Diane, 2009b, p.4).

The benefits in using technology to simplify data entry and communicating with parents were expressed. Yet concerns relating to the reliability of school-based technology were also reported. The whole online data entry/access system was great. You could easily get standardised results to empower your teaching. It was used to enter data, collect knowledge but it could have been utilized more effectively, I’m sure. The thing with technology at school level, is that sometimes it lets you down. So you don’t want to be totally dependent on it. It could be used formally in feedback from parents, students and peers quite easily, but you would need time to do this or it may not happen (Chris, 2009b, p.5).

Mary’s written survey responses reported that the materials required for her project were easy to download. Yet during the interviews Mary and three others, Wilma, Sam and Meg, identified the benefits of technology yet they reported that they had not used technology to its full potential. During the interviews they presented the
ways they could have used technology more effectively to enhance the ease of implementation of our projects and to provide avenues for feedback.

All the DIBELS results are on our M drive and accessible to everybody. Technology could have even been used even more with all the resources and all the materials available online (Mary, 2009b, p.4).

The only way I used technology was to print out the surveys and my power point. I could have used it more to communicate with staff and have resources available for them (Meg, 2009b, p.2).

I could have put surveys on line, used it to monitor the kids and that would have made it easier to store the data. The actual teaching would have been easier if I had it all on line. It would have been there for whoever needed it. It would have been better for the sustainment and scaling really cause it would have all been there. Technology could have helped the system become more self-reinforcing. It would help people in the future (Sam, 2009b, p.4).

It wasn’t a big aspect of it I must admit, the only thing really where technology was involved was to keep all the data in one place, we used it to track the kids. If we were doing it now I would probably link it in with the schools wiki and I could definitely use that easily. Kids could have put their feedback on that instead of giving hard copies to me, even surveys could be there also, of their reflections. They could even put that on the blog (Wilma, 2009b, p.6).

Five of these participant responses collected through the interviews identified that when technology is accessible and reliable it can be used by stakeholders to enhance
the implementation, sustainment and expansion of research based projects in school-based settings. The benefits in the use of technology were identified through cases that continued to become scaled and extinct.

5.21. **Projects viewed as credible by stakeholders**

All six participants reported that the use of validated research based projects is enhanced when stakeholders viewed their outcomes as credible in their ability to address genuine needs. During the interview Mary and Sam’s responses reflected the views of the other participants. Mary reported the benefits of projects having a clear direction and Sam commented on increased participation as project credibility through student success became evident.

We have had so many projects come and go over the years. This was different; they could see exactly where it was heading and that opened up expectations straight away. You could see growth and that made a big difference (Mary, 2009b, p.3).

Teachers became more involved as it went on as they could see it become more and more successful (Sam, 2009b, p.2).

Wilma’s response during the interview reinforced and expanded upon these responses. She stated that when projects were identified as valuable by eliciting positive student and teacher responses, they were more readily used and supported.

It was recognised as something of value by students and teachers and that’s why I believe it was adopted. It proved itself, it evolved and results were seen due to the high level of improvement because of the high level of consistent instruction (Wilma, 2009, p.3).
5.22. Limiting of competing demands

There were no direct responses made by participants that exclusively reported on the limiting of competing demands. All participants linked the strong impact of a school’s leadership team to the ways in which they prioritised the projects within their schools. They reported that when the school leaders positioned the project in the school timetable or gave the project status this contributed to a reduction in the competing demands placed on practitioners, as the projects were being implemented and sustained. Three participants also made comments on the importance of sharing the ownership of the projects when expressing their thoughts about the need to limit competing demands if projects are to be sustained in school applications.

During the interview Diane went further and stated that she required the support of two principals who had different leadership styles. She reported that she had the time to implement her project and she wasn’t overloaded as her project was viewed as a priority. Diane indicated that this contributed to the scaling of her project within her setting.

I had to get the support from 2 principals as we had 2 sites. One was the 7-10 principal and the other was the college one (Year 11 and 12). The college one was into data and the other was a people person and very laid back. The data driven principal was a forward thinker and planner. The other one was very relaxed and would communicate well with the parents so between the two of them I guess we had a balance. It was great as they gave me the capacity and time to do what I needed to do and I wasn’t overloaded with additional tasks as this was a priority in their eyes (Diane, 2009b, p.5).
During the survey Mary provided an account of a unique experience that was not shared by other participants. She reported that her first principal implemented the project in the new setting when she had moved on and her second principal delivered the project if she became overloaded. Mary suggested that this contributed to her project being scaled within and beyond her setting. Meg reported that her principal gave the project status and was realistic in his expectations from his staff and this reduced stress levels generated from competing demands. Meg’s principal and executive team decided to increase the project’s status within the school prior to it becoming extinct that same year.

Executive support was very good, my AP was very interested in this area, she has since moved on as Principal in the Wollongong diocese she has introduced it down there. Our new principal was very open to it. He was supportive and even administered it to our Kinder himself. He knew what was involved and was fair so we could go to him for help if it (the load) became too much (Mary, 2009b, p.5).

The principal gave it status because he knew it was going to help the children. That principal was flexible and supportive. He was a people person not a taskmaster. The teacher’s moral was always high the students would then benefit from that. He was realistic in what he expected from us when we implemented the project (Meg, 2009b, p.5).

Sam’s comment on her principal giving her project status and reducing the expectations on individual stakeholders and thus limiting the demands placed on them was reflective of the sentiment shared by three other participants. During the interview Sam went further to state he acknowledged the time and effort required
when implementing the project and as a result there was a culture of appreciation amongst the staff. Sam’s survey and interview comments combined to identify the support of her leadership team in contributing to the increased status and scaling of her project.

Our principal was someone who was happy to disperse control. He had a lot of trust in people I felt he had trust in me. If you went to him with an idea he would let you run with it he would not had to micro manage it. He gave it status in the school and was very supportive. He did acknowledge what we were doing was significant and so everyone appreciated the time and effort that was involved (Sam, 2009b, p.6).

Wilma’s interview comments were less specific but captured the opinion of all six participants. She reported that her flexible principal allowed staff to take time to assist others when required and this reduced the pressures of competing demands when implementing her research-based project at school.

We had a good solid leadership team. Our Principal was very resourceful. I think he was a really dynamic and flexible. He was open to new ideas and listened to your opinions on the project. He wasn’t entrenched in any fixed style. He was never dogmatic, so that took a lot of the pressure off I think. The fact that people wanted to use it showed that the project was working and when the principal wanted it as part of the entire school assessment plan, no one ever said ‘no, we don’t want it’. So everyone was happy to take it on. So it was a combination of the timing and that it fitted the need for a more structured assessment plan perfectly. It catered for the need that was there
and we were given the flexibility and time to help others when they needed it
(Wilma, 2009b. p.5).

These reports identified by five of the six participants describe the way in which the support of the school leaders contributed to increased the projects status within their schools. Of these five cases, four became scaled within and beyond their school settings and one (Meg’s) became extinct.

During the survey and interview I reported on the positive impact the support of the first two school leaders had on the sustainment and scaling of my project. I then provided a contrasting report not experienced by other participants about the negative impact a third principal had as he added additional expectations to staff requirements. The third principal reduced the support and time allocated to implementing the project and introduced additional expectations. Although the third principal worked with the same stakeholders, within the same setting as the previous principals, the additional demands and reduced support introduced by the third principal contributed to the projects extinction.

As more people came on board and the momentum increased. People were literally asking if they could do it after they understood the details as it could lighten their loads and benefit them and their students. The project became a priority as it addressed our needs so were given time and resources to scale it up. It scaled very quickly, much faster than planned. We had three changes in principal. The founding principal was brilliant and firmly believed in distributive leadership. He strongly supported the project as it would make the staff lives easier and it would really help the students. We then had a new principal and she was also great, even though she was finding her feet she
was driven by the needs of the students and continued to keep the project as a school priority. Then we got another new principal, who had a very directive style. He was very driven by things looking good and his drivers were so different. We even showed him the standardized data that display real growth, but he and the new deputy were not interested, they had their own agenda. So really the project had no real hope. Quite bizarre really. The same setting, same project, same kids etc. Consistency in all details, yet new principal 3rd time round, can destroy 3 years work with a very short time. They didn’t say you can’t do it. It was there is no time to do that any longer and here are additional things that need to be done which obviously directly contributed to the demise in a smart and directive way (Chris, 2009b, p.7).

This semi-structured interview response added clarity to the written survey response which reported “the support for the project increased as the demand for the project increased. In the final year of the project with the change of leadership, support was withdrawn from all areas, which increased the demands placed on all of us. Shared ownership reduced as competing demands and directions changed the project status. A collaborative sense within the school was replaced by a directive, authoritarian leadership approach” (Chris, 2009c, p.9). This report identified a sequential relationship between factors, as I was not able to isolate them to directly respond exclusively to the factor identified in the interview or written survey questions.

Wilma’s short survey response statement summarised the sentiment of five of the six participants about the way in which concerns about competing demands could be successfully addressed in school settings. Meg was the only participant who did not express this consideration.
Because it was part of the school day it wasn’t seen as an additional demand on the teachers (Wilma, 2009a, p.5).

All participants were unable to isolate comments about competing demands from comments about the principals and school leaders. Participants constantly referred to the school leaders as having the ability to influence the status or priority of the projects within the school settings.

5.22.1. Sufficient and ongoing instructional time, preparation and resources

Sufficient time to prepare resources was reported to be essential to the implementation and sustainment of all projects in both the surveys and interviews. Working the projects into existing school timetables was also reported to have a positive impact on the promotion of research-based practices in schools by five of the six participants during the semi-structured interviews. The following examples present the cross section of ways in which individual participants addressed practical issues. Of these five accounts, four became scaled and Meg’s account, which stated she worked the project into the timetable of her colleagues, was the only one of the five to become extinct. A single account of the difficulty in maintaining projects once supports were withdrawn was also presented. This project went on to become extinct once the support including time and resources were withdrawn.

The AP would do all the practical issues. We needed him to work around the calendar, excursions, incursions, exam timetables. If the program wasn’t a priority it would get lost (Diane, 2009b, p.3).

The loads were shared. The Special needs team did all the data entry and copying. It was appreciated so it was worth it. Time was allocated and it
became part of the literacy expectation, so it worked in very easily (Chris, 2009b, p.2).

Schools are so busy especially in the beginning of the year. I implemented the actual teaching part of it during the literacy blocks so it was worked into the timetable from the onset (Mary, 2009b, p.3)

In the implementation phase the time that I had to spend that was a real bonus. Nobody minded that I took time from my normal teaching load to focus on the project (Sam, 2009b, p.4).

We couldn’t run it when all resources, time and supports were withdrawn (Chris, 2009a, p.4).

I worked in with their timetable (Meg, 2009b, p.3).

This interview comment by Meg followed her survey response which reported that she was a part time employee and would come in on her days off to prepare resources and the time required to implement the project and prepare these resources was important to its success.

Wendy reported the sentiment of one other participant when she stated that as the project continued, informal staff conversations proved to be beneficial to staff members. Time for ongoing formal and informal contributed to the sustainment of projects.

As the project went on there was a lot more talking between teachers and they would help each other as it was needed (Wendy, 2009b, p.3).
5.23. Complete, practical and accessible

Participants reported that research based projects that have a complete implementation strategy through being comprehensive, comprehensible, accessible and practical will be more successful. All participants linked this to the teacher education course as it modelled how the aforementioned features were woven into the design of the course and impacted the way participants took up the task of developing their projects. Participants reported that they modelled their project designs on their course experiences to engage all of the parts of the project, as this would have a reinforcing effect, which could further enhance its success.

Wendy and Sam reported on the need for the whole package when implementing research-based projects in schools as singular, separated components are not enough. Diane reported that the course, like our projects had a life of their own. All participants referred back to the course experience when they reported on the way to make their school-based projects practical and complete. Not one participant isolated these factors in their interview responses.

At school in practice, they want the whole package they don’t just expect one thing. They didn’t only need the content, they needed to know why and we could answer it because of the course structure and depth of the course. We had the graphic organisers that helped the more visual learners like myself go step by step through the task and get to the endpoint. The step-by-step structure of the course was huge, it was a main feature and so effective so I then used a similar complete approach to implement my project at school (Wendy, 2009b, p.4).
I think they embedded things right from the start. It was heavy going and we were coming from so many different worlds. We lived and breathed the course it had a life of its own. It was the readings, the research, the collaboration and then we would put it into practice at school. It was putting the research into the practice without us even knowing or realizing it (Diane, 2009b, p.4).

It was the way it was scaffolded, the spiralling effect. I did a previous course in action research and I found this quite difficult, as there was no structure on how to do it. I found this a completely different experience and I followed the same process when I implemented my project. It was the whole package (Sam, 2009b, p.4).

5.24. Teacher education

Many comments in the previous section reported on the capacity of teacher education to prepare participants to be better able to implement and sustain research-based projects within school settings. During the interviews all participants expanded on these statements and their survey responses to report on how the teacher education experience contributed to their ability to promote selected projects within their settings. There was a consensus in reports that when subjects were intentionally linked, they could reinforce key ideas that enabled students to build a depth of understanding. All six participants also suggested that when courses directly responded to teacher needs through a clear and consistent approach the projects had a greater likelihood of success.

Meg, Mary and I reported on the totality of the teacher education experience. These three quotes were representative of all participant reports that indicated that the TE
course provided a context for involvement and the acquisition of deep knowledge and experience. A description of the successful completion of the course was described as being predictive of the successful implementation of research-based projects within schools.

I think all the assignments that we did, were exactly the way we needed to follow through with the project. We had to do the theory side and the practical side of it, there was always three components to every assignment so you knew you were going to have the differentiation component. You had to go into it so deeply to understand it. You had to know the theory, so I think that is what helped you in the project. Because you knew why you were doing everything. You need the total package. The depth of knowledge really came out in our projects (Meg, 2009b, p.4).

You actually lived and breathed what you were doing and were drilled about the whys and where for of what you were doing. It was not enough to know specific features, it was all encompassing, and you had to know everything. If we didn’t succeed in the training camp, it was like we would never succeed in practice. It wasn’t for the faint hearted (Chris, 2009b, p.6).

I think the biggest support for me was the battery of knowledge behind me. You can’t teach people unless you have the research and theory behind you. When you do go to implement it and you have the knowledge you can feel comfortable because I thought I knew what I was talking about at that time. That was the biggest thing for me. That level of knowledge was huge to implement the project. If we didn’t do assessment, collaboration etc. we
would never have everything come together at the school level or even class level (Mary, 2009b, p.5).

During the interview Diane, Sam and Wendy went further and made comments about how the knowledge and experiences continued through their personal journey at school. Sam outlined the benefits in being part of a cohort and Wendy described the importance of personal traits such as resilience.

We did the same thing, we followed the program, we relived the course in our setting. We did what we did in the course at school (Diane, 2009b, p.4).

It was such a sudden impact. I would take the teachers at school along with me, not physically but along the learning journey (Diane, 2009b, p.5).

We were taught a holistic structure to support staff. You already had the skills, you may not have realised it at the time. Being part of a cohort was really good. I really think that course built capacity. It gave you the skills to engage with the people and to build their capacity and you did it without even realizing that you were doing it. Looking back, without even realizing it, you learnt how to build capacity, you learnt how to collaborate without even realizing it. We set about getting our masters then, then we got all those meta skills without even realizing it. If we hadn’t done all that collaborative stuff, we wouldn’t even have learnt how to deal with all that stuff (Sam, 2009b, p.5).

The depth of knowledge definitely played a key part in completing the project, Resilience as well. By the end of it, the project highlighted our profile in the school. They began to recognise that she knows a lot in this area
need to be able to adapt also if need be and be very resourceful. It did raise our profile, which was good because we knew what we were talking about (Wendy, 2009b, p.6).

Sam was the only participant who reported concerns regarding the sequencing of the delivery of information during the teacher education course. She then offered ways in which the TE experience could have been more beneficial.

That was a flaw in the design of the project probably. We were doing that thing about the self-organising school at the same time, but really we should have done it before that. If you completed that unit first, rather than doing it all at the same time it wouldn’t have been so overwhelming. So if I started another project now I would take that knowledge into account (Sam, 2009, p.5).

5.25. Collaboration

The previous participant reports on the teacher education experience demonstrated how TE can contribute to teachers feeling sufficiently prepared. In their responses to collaboration questions participants again referred to their teacher education experience. They described how research based projects can be enhanced when teachers and researchers work together to develop links between theory (researchers perspective) and practice (classroom teachers perspective).

You are tapping into personnel experience between people who have the link between research knowledge and classroom based instruction. It was so valid we just need to get it out there (Mary, 2009b, p.5).
During the interviews Diane reported on how she gained respect from her staff from the knowledge she had accumulated from working with researchers. Mary, Sam and I reported on the ways in which we engaged with people from our school setting along our research journey.

I came with facts and figures, hard evidence and because I had done all the reading I had all the knowledge. It sounded like I knew what I was doing, so that helped with the collaboration and respect from others (Diane, 2009b, p.5).

We were engaged in the course and the research from the start, so we could then engage people as required. We needed to make sure they were familiar with all of it, what the expectation were, they needed to be confident at administering the probes (Mary, 2009b, p.5).

The way the tasks were broken down in the assignments. Do this little bit then the next, the rest was practical. There was constant feedback and collaboration all the time and constant modelling. This was what we needed for it to play out in our real jobs (Sue, 2009b, p.5).

We had SDD days, sessions, readings, consistency and feedback opportunities to make the project manageable, easy, productive and meaningful. We stretched them out of the comfort zone and engaged them in new learning just like the course did for us (Chris, 2009b, p.5).

Sam’s report represented the sentiment of all participants as she provided a summary of the completeness of the teacher education experience and its effectiveness in providing participants with the structure and depth of knowledge to effectively
collaborate and communicate key learning with school-based staff. All participants were united in reporting that their teacher education opportunity strengthened their knowledge on collaboration and the effective implementation and sustainment of their selected research-based projects in their schools. Not one participant reported on collaboration exclusively in their survey or interview responses. Meg went on to suggest that collaboration could have further been enhanced through the sharing of the wealth of knowledge gained with those other than school-based staff.

By replicating what we had done in the course was the biggest feature. The course was modelled so well. The whole course was collaborative and was embodied into a theoretical framework. The other really big thing in that course was the whole professional language around inclusion. It is not superficial it was that go deeper [sic], it was actually going deeper and it is the total comprehension, the language, the living of the course (Sam, 2009b, p.6).

It would have been good to gain the knowledge on what everybody else had done in their projects (Meg, 2009b, p.4).

Meg was also the only participant to describe that the reduction in the collaborative culture at her school was due to her it being restructured to cater for open classrooms. She also stated that this collaborative culture was reduced when her principal instructed that the primary teachers to implement her project. I reported that collaboration within my setting reduced with the lack of support and introduction of competing demands from my new leadership team. Of the six cases that identified the strengths of collaboration on the status of the projects, Meg’s and my case were the only two that became extinct. Our reports also offered accounts of
a reduction in collaboration as the projects moved from sustainment to partial sustainment prior to becoming extinct in 2009.

Diane presented a unique perspective from her experience that was not reported by other participants. She commented on the need for collaboration between staff members to ensure that students are not teased for their participation in projects.

We had kids coming back to class a little late, so they were being bullied because they had been to the “Sped” class, so we had to collaboratively address that. But that was a real concern that collaboration addressed. It had to be dealt with by a group of people. The collaboration wasn’t negative but we had to use it to address it (Diane, 2009b, p.4).

5.26. Responsive to change

Wendy’s report was representative of the sentiment of all of the six participants in that they suggested that flexibility assisted in the success of the projects. All participants indicated that flexibility allowed for changes to be made to address the changing needs of stakeholders and school setting. During the interview Wilma attributed some of the ability of the stakeholders working with the program to be responsive to change as required to the principal at her school.

I think it certainly was successful because we could change things if we needed to. We weren’t ‘locked in’, so it gave us traction. He (the principal) let it flow to cater for the needs of the setting (Wilma, 2009b, p.5).

Sam reported that it was essential to be aware of the readiness level of stakeholders. She then began to comment on other factors in her account of the responsiveness of research. Sam identified the importance of having a complete program and giving
staff time to become familiar with it. Meg, who supported the need to be responsive
to changing setting and stakeholder needs in her survey and initial interview
comments, later reported that she showed the staff what they were going to do and
they didn’t question anything.

I gave them readings, it was the PD, you know you find the level the people
are at, you have to find their level so it is meaningful. They were happy to do
it, cause they had the whole program, they didn’t have to do anything. They
had time to just get used to it because they had it, they had time to get
comfortable with it (Sam, 2009b, p.6).

Meg also described that she did not expect her staff members to prepare the research-
based project. The difference between Meg and Sam’s report was that Sam
commented on the time the staff had to become familiar with the project. Meg
described that she was predominantly the person who shared the knowledge of the
project and staff followed her lead.

It was mainly me, I did give them the PowerPoint based on what I had done
with the lecturers on the course beforehand to show them that this is what
they were going to do. They didn’t really question anything, but I suppose
that’s because they hadn’t done it before. They had knowledge of it. It was as
far as me telling them as much as I could during the power point, but because
they hadn’t experienced it before they had to go on what I was telling them
(Meg, 2009b, p.4).

I reported that when direct instruction was given without the opportunity for
collaborative decision-making and shared ownership, change became difficult. The
same staff had experienced a new principal with the second leader and had
responded well to this change. Yet I reported that the third principal was more authoritarian in his approach and the response to change was not as positive. Both cases that reported a negative response to change gradually became extinct.

5.27. **The implementation and sustainment of research based projects is an ongoing process**

Participants identified that the implementation and sustainment of research-based projects is an ongoing process not a singular event. Reports made by participants in the previous 15 categories presented have identified that single factors cannot exist in isolation if projects are to be sustained in school applications. Diane, Mary and Sam reports during their interviews represent the sentiment of all participants when they identify that projects that assist many people in a school community have an increased capacity to continue to be sustained if they continue to prove to be beneficial.

I guess this one gets the results as it helps the whole school it is not KLA specific (Diane, 2009b, p.5).

It is purposeful and non judgmental and benefits us all (Mary, 2009b, p.5).

The fact that it was working made people want to pick it up and run with it. It just keeps building (Sam, 2009b, p.6).

5.28. **Summary of the factors identified by participants during the explanation phase**

All of the factors included in the survey, which were identified in the RTP literature were reported as having a positive impact on the implementation and sustainment of research projects, other the need for acknowledgement and reward. Meg was the
only participant who continued to mentioned reward when she stated that she did not receive any financial gains for coming into school to prepare resources on her day off.

Diane presented unique observations from her high school experiences. She reported on the need for projects to be given status so that they are included on school timetables due to the increased number of stakeholders involved in secondary settings. She also expressed that a collaborative approach to bullying is essential for students not to be targeted when participating in projects.

Reports about the need for personal traits such as passion, endurance and determination were presented by five of the six participants. These factors went beyond the need for enthusiasm of stakeholders as identified in the RTP literature. Comments about the positive impact of visual organizers such as graphs and the strengths experienced through the support of parents were also presented in the interview responses of three of the six participants.

Sam was the only participant who expressed the importance of identifying the readiness of staff to implement the projects at her school. She reported that the key was moving staff forward from there. Yet all participants commented on the teacher education experience and their growth during and after that experience. All participants presented the strengths of the step-by-step structure of the course as a key beneficial feature during both the surveys and the interviews. The structure of the course was reported as having a positive impact on building our capacity.

In five of the six cases, participants linked the new knowledge gained through their participation in the TE course to their increased status and the increased confidence in their depth of knowledge and ability by staff members or parents. The importance
of the depth of knowledge could not be separated from teacher education experience and comments on competing demands were not independent from reports on leadership by any of the six participants.

5.29. **Comparison of the data collected through the explanation and exploration phases**

The responses collected through this second phase (explanation) of data collection built on the data collected through the first phase (exploration). This second phase went further to explain how factors introduced by participants during the first phase of this research impacted upon the implementation, sustainment, scaling or extinction of six research-based projects in school settings.

During the surveys and first round of interviews conducted in the exploration phase, all participants gave priority to broad statements of accessibility, feasibility and practicality of projects in addressing genuine needs of the students within their schools. Broad reports about the intensity and depth of the teacher education experience and the strong impact of leadership support on the sustainment of projects were also presented. The following descriptions provide an overview of the accounts of the factors that contributed to the sustainability of the projects of individual participants. These reports provided increased understanding through the stronger description and clarification of the RTP experienced by participants as they moved through the first two phases of this research.

**5.29.1. Chris**

During the exploration phase I gave priority to the importance of time, staff support and material/resource supports when implementing and sustaining research based projects. The need for these supports was echoed during this explanation phase. My
account of staff support was expanded to describe the positive impact of staff enthusiasm for the project when the project was perceived as being beneficial to students. During the second interview priority was given to the extent to which the project was scalable, flexible and responsive to the changing needs of the setting. The responses were consistent with those provided to earlier questions on usability, trustworthiness and accessibility.

Through the semi-structured interviews I built on my survey and initial interview responses by linking collaboration items to teacher education. I reported that teacher education has the capacity to promote the use of research-based practices through raising awareness of the skills required within these factors. I explained that knowledge gained through comprehensive teacher education efforts can be shared with school based staff to further promote the use of research based practices and link theory and practice efforts.

During the explanation phase my responses were extended to propose that the consistency across subjects in the Masters course was beneficial in promoting the transfer of knowledge to other staff members. The demanding but equally beneficial nature of the course was attributed to our increased depth of knowledge that was shared with school-based staff through readings and professional development sessions.

Through the exploration phase I reported on the importance of leadership support to the status of my project. The responses to the survey were consistent with comments made during open-ended and semi structured interviews about the impact of strong leadership support for the project and the consequences of the withdrawal of this support. The leadership factors, which I proposed to be important to the
implementation and sustainment of my DIBELS project, became more evident as they were withdrawn. The strong status of my project began to reduce with the new leadership in 2008 prior to becoming extinct in 2009. The changes in the leadership style were also consistent with my reduction in support for key factors across all identified themes.

5.29.2. Mary

Mary gave priority to the importance of time for her staff to implement and maintain a research-based project during the exploration phase. This need was echoed during the explanation phase as Mary’s report was expanded to describe how her project was worked into the school timetable. She stated that her project became part of the whole school literacy block and as a result became part of the scheduled daily routines at her school.

During the first interview Mary reported that she initially prepared resources herself. This was clarified in the second interview when Mary stated that and as the project became a school focus, other staff members were allocated time to assist in the preparation. Mary stated that the shared preparation reduced the demands on her time. She suggested that these factors also positively impacted the project’s scalability. As the project grew and became a whole school focus, Mary stated that its status within the school increased. This increased status assisted in promoting and prioritising the project over other competing demands. Mary explained that the increased status of the project ensured the allocation of sufficient instructional and resource time within her setting.

The need for evaluation and feedback to be ongoing throughout the projects rather than being added at the end (emergent), were not identified during the exploration
phase, yet were rated as a high priority in Part 2 of the survey. During the explanation phase Mary explained that this type of emergent feedback needed to be woven into the project as it provided guidance to stakeholders on what to do next. Mary also emphasised the need for sufficient instructional time to ensure stakeholders were familiar with and could access project details. During the explanation phase Mary reported that for evaluation to be effective it should be ongoing, timely and responsive to actions rather than being added to the end of phases.

Mary’s low survey ratings for positive peer responses were not consistent with other high ratings. Mary clarified this difference during the second interview as she identified the difficulties she experienced when moving away from the previous approach the school used to teach phonics to Kindergarten. Mary reported that the new approach to teaching phonics represented a significant change. She explained that this change in approach did cause some concern for stakeholders but it did not prevent her project from being implemented, sustained and scaled as all other support factors were evident.

During the semi-structured interview Mary went further and explained how these factors contributed to the increased status of the project, as it became part of the school policy. Mary described how the accessibility of the project and the use of technology enhanced her project’s scalability. She stated that the project was easy to implement and provided teachers with data they could easily download and use to plan instruction. Mary reported that this feature of her project assisted in making it responsive to students changing needs.
The most resonant priority identified by Mary was the importance of research-based projects being comprehensive, accessible and practical. During the explanation phase Mary suggested these features were essential for projects to address genuine questions, problems and solutions. This was consistent with original comments linking accessibility of projects to the schools focus. These features were expanded to suggest that projects also require the potential to be scaled and the effective adoption of key features to be effective in meeting the needs of the setting. She also described the significance of the lived experience of the Masters course to her project status. Like me, Mary reported that the Masters course contributed to promoting the depth of knowledge and skills required to transfer and implement key features that promote the sustainment and scaling of research based projects.

5.29.3. Diane

During the exploration phase Diane’s responses indicated the importance of consistent leadership and peer support, and adequate instruction and time. The need for these supports was echoed during the explanation phase. Notions of adequate instruction were expanded to suggest that experts should come to schools to deliver relevant professional development opportunities to the whole staff. Diane went further and suggested that experts should work with the school to develop whole school policies based on validated research.

During the exploration phase Diane described her personal determination as a driving support for the project. She also noted the importance of whole school ownership and support when implementing and sustaining research-based projects. Support factors that were not identified in the exploration phase, yet were rated as a high priority in Part 2 of the survey included the need for projects to be central to
student learning along with the need for communication and feedback from multiple stakeholders to be woven into project design.

The most important priority identified in the area of support during this explanation phase was whole school ownership for the project. The responses to the survey were consistent with comments made during both interviews about the need for a determined approach by the project leader. Diane indicated that when personal determination is merged with whole school ownership and support, research based projects can take on a life of their own. Diane explained that a project takes on a life of its own by becoming part of the day-to-day occurrences of the school.

During the survey and interview in the exploration phase Diane gave priority to the importance of cooperation, frequent communication and engagement in genuine questions, problems and solutions. During the semi-structured interview Diane expanded on these factors to describe how collaborative efforts were necessary to address the challenging situation that emerged when students were teased for participating in the program. She attributed the knowledge required to implement and sustain her project to her teacher education experience. Diane suggested that PD meetings and staff development days were structured around the skills and knowledge she had gained through the consistent approach of the Masters’ course. As with Mary’s and my case Diane proposed that strong teacher education experiences have the capacity to promote the use of research based practices through raising awareness of the skills and factors required to link theory to practice.

The most resonant priority identified by Diane was the importance of the project’s potential to scale and ensuring that project has the features required for sustainability. This was consistent with Diane’s original notions of usability,
trustworthiness and accessibility. Diane expanded upon her original statements and suggested that when projects have the potential to be scaled, they can address the needs of the whole school. Diane explained that her experiences served to demonstrate that when projects are accessible and useful, they can become a priority and part of the life of the school. Diane suggested that through exerting a whole school influence, her project became effective in meeting the needs of the setting by addressing the identified gap.

Diane reported that the depth of knowledge and ability to share it with other staff members contributed to the successful scaling of her project within her school in 2008 and beyond her setting in 2009. The importance of these factors on the implementation, sustainment and scaling of Diane’s projects became evident as the status of her project increased. This increased status within the school became apparent as the project was identified as a priority by the staff and included on the school annual calendar.

5.29.4. Wilma

During the exploration phase Wilma reported on the importance of adequate time, leadership support and material/resources in implementing and sustaining research-based projects. Notions of support were expanded to include the positive impact of parental support on the sustainment of the project during the explanation phase. During the exploration phase Wilma described the importance of principal support and the need for strong and accessible research knowledge in implementing and sustaining her project. During the explanation phase Wilma went further to describe her principal’s modification to her timetable to give her extra time to share her
knowledge and train others. Wilma added that her project became more prominent in the life of the school as the knowledge and skills of other staff members grew.

Support factors that were not identified in the exploration phase, yet were rated as a high priority in Part 2 of the survey included the need to enhance feedback, evaluation and communication by weaving it into the project design. The need for support to be responsiveness to changing needs of the setting was also presented as a priority through the explanation phase. The most important priority expressed by Wilma during this explanation phase was her depth of knowledge. Wilma reported that she gained the depth of knowledge required to implement and sustain her project and increase its status through the teacher education course. The responses to the survey were consistent with comments made during open-ended and semi-structured interviews about the impact of solid research based knowledge.

During the exploration phase Wilma gave priority to the usability and accessibility of research-based projects. More specifically, this factor was predominately viewed in terms of the project being simple and easy to administer and monitor. During the explanation phase Wilma went further and presented accessibility in terms of the project becoming part of the school’s day-to-day occurrences. She reflected on how the project was valuable and based on standardised and accessible data to identify student improvement.

During this explanation phase Wilma also made reference to her passion and its impact on a project’s intensity and scalability potential. Wilma described her project as having the potential to be scaled and its ease of implementation. Unlike the other participants Wilma went further to suggest that it is hard to disseminate a person’s passion for a project unless it is considered to be valuable. She made reference to the
status of her project and stated that she believed it scaled quickly as her passion was disseminated across the whole school and it was perceived as being purposeful by both staff and students.

At the conclusion of the second interview Wilma reported that as a result of her practical experience she had learnt that the “tiny things” collectively contributed to the status of her project. Wilma stated that many factors combine to create a united effort that is understood and shared by all stakeholders and that this merger was essential to her project being scaled within her setting in 2008 and beyond in 2009.

5.29.5. Sam

During the exploration phase Sam’s reported on the importance of using projects that directly support teachers by addressing their needs. Sam also prioritised building rapport and capacity through sufficient preparation during the exploration phase. The need for these supports was echoed during the explanation phase. The notion of building capacity was expanded to describe the need for a common and comprehensive understanding of educational terms. Sam explained that at her setting the term explicit teaching was used to describe school practices. Sam explained that completing the Master’s course had given her an accurate understanding of what explicit teaching was. She went further to suggest that prior to the course she and her fellow staff members had not really comprehended the key components required to make explicit teaching effective.

During this explanation phase Sam expressed that being part of a cohort was another effective way of supporting the needs of teachers. She described that she had completed the same Master’s Course with another staff member at her school. Sam
went further to state that having two people who shared the same teacher education experience at the same setting was advantageous.

During the exploration phase Sam described that building rapport made the implementation of her research based project easier. Sam expanded on the ways to develop rapport during the explanation phase. Sam reported that she gained increased knowledge through staff questionnaires of their aspirations, intentions and prior knowledge. Sam stated that this approach was effective in building rapport and the success of the project as it raised awareness of where individual staff members were. Sam added that she believed that this knowledge was required prior to the project effectively moving forward.

Support factors that were not identified in the exploration phase and rated as a high priority in Part 2 of the survey included the need for opportunities for feedback from multiple stakeholders to be woven into project design. The most important priority identified in the area of support during this explanation phase was the need for a scaffolded course in building teacher capacity. Sam explained that teacher education experiences that are clear in their sequence and expectations can effectively build research based knowledge and skills within teachers.

During the exploration phase Sam gave priority to the importance of collaboration, cooperation and feedback. Sam’s initial responses were extended during the explanation phase to suggest that groups that are collaborative may not always be harmonious, yet shared language and understanding is essential. Through the semi-structured interviews Sam went further to link her knowledge of collaboration factors to the course framework implemented in her teacher education experience. During the explanation phase, Sam gave priority to the need for teacher training
courses that are practical. Sam explained that this can be achieved by having essential knowledge embodied into the theoretical structure of courses. Sam further explained that when teacher education courses are complete, comprehensive and practical with key features woven into their framework, they are better able to reinforce essential learning.

During the exploration phase Sam, like Wilma indicated that the scalability component of her project allowed it to be implemented as school policy. This was extended during the explanation phase to outline that stakeholders require both the theoretical knowledge and skills prior to effective scalability of research-based programs in practical applications. Sam described that engagement of both theoretical and practical knowledge and skills are essential to the implementation of research-based programs. Sam reported that by weaving these elements together, a reinforcing effect can occur which enhances a project’s potential to be scaled in practical applications.

The responsiveness of research factors that were not identified in the exploration phase, yet were rated as a high priority in Part 2 of the survey included the need for projects to be self-reinforcing and to be able to respond to the personal growth of stakeholders. During the expansion phase Sam stated that she built rapport and capacity by breaking key components into manageable steps. She also identified the importance of a shared language on the implementation and sustainment of her project in 2007 and it’s scaling within her setting in 2008 and beyond in 2009.

5.29.6. Meg

During the exploration phase Meg’s responses indicated the importance of adequate materials, leadership and collegial support and preparation time. Like all the other
participants, Meg echoed the need for these supports during this explanation phase. Meg expanded on these support items as she described them in relation to the status of her project. Meg was the only participant that stated that the additional non-paid work time she allocated to the project during the implementation stage contributed to its success. She added that she did not have the additional time required to maintain and support the project as it was expanded. Meg described the differences in the level of collegial support she experienced throughout the project. She explained that the level of collegial support did not expand as the project was expanded. She went further to suggest that when RTP factors, such as time and support from colleagues are not extended with the growth of projects, the project will move closer to extinction.

During the exploration phase Meg shared the sentiment of all other participants as she described the intensity and depth of knowledge she gained through the Masters course. Through the explanation stage Meg went further to explain the benefit of the Gantt chart to her project planning. She suggested that the course had given her usable and practical knowledge that was critical for theory to become practice.

Factors within the support theme that were not identified in the exploration phase and were rated highly in Part 2 of the survey included the need for opportunities for feedback to be woven into project design. Like Sam, Meg explained that this type of emergent feedback also created an opportunity to address stakeholder needs as they were identified.

During the second round of interviews Meg suggested that for projects to be scaled successful, sufficient preparation time with support from old and new colleagues is required. Meg reported that the level of effort and time required to address these
factors should have changed with the project's status. Meg stated that as not all stakeholders were committed to scaling the project, there was not the required support from colleagues, time or positive team dynamics essential to sustaining the project as it grew. Meg stated that these elements gradually contributed to her project not scaling well and becoming extinct over time.

During the exploration phase Meg gave priority to the importance of the project being research driven, manageable and reflective of the needs of students and staff. This was expanded during the explanation phase when Meg explained that the structure and content of the assignments she completed as part of her Masters course assisted in ensuring her project was research driven and manageable. She suggested that the course readings and assignments assisted in empowering her with the practical and theoretical knowledge required to implement her project at her school.

Factors that were not identified in the exploration phase and were rated as a high priority in Part 2 of the survey for 2006-2007, included the need for projects to have validated scalability potential, be self-reinforcing and to be a good contextual fit. Meg reported that projects would become extinct if the merger of both practical and theoretical elements does not exist. During the second interview Meg described the decision to scale the project was made at an executive level without consulting other staff members. The negative impact of the rapid scaling of the project without consultation with the stakeholders and the heavy load experienced by the project coordinator became more apparent as the project began to deteriorate in 2008 and became extinct in 2009.
5.30. **Summary**

The reports collected through the explanation phase describe how the factors introduced in the exploration phase and other factors asserted in the RTP literature impacted upon the implementation, sustainment or extinction of individual RTP project. Through all six cases the responses made during the semi-structured interviews were consistent with and expanded on the written survey responses and comments made during open-ended interviews.

Through the explanation phase the importance of the relationship among RTP factors became apparent. The positive relationship between factors became evident as each project was successfully implemented. This positive interconnection between factors increased with the scaling of four projects over the course of this study. The negative impact of the reduction or removal of key RTP factors was evident in the events leading to the extinction of both Meg’s and my project.

The relationship between collaboration taught in the TE program and the need for a complete framework that weaves practical experiences into a theoretical framework were important factors, which linked to the benefits of emergent feedback. All participants suggested that feedback was most effective when it was woven into the project. This use of feedback was modelled in the Masters course and replicated during the implementation stages of all six projects. It continued through all phases of the four scaled projects. Collaboration was promoted through the use of a common language that was understood by all. This increased comprehension of key project features, enhancing accessibility, trustworthiness and in turn the usability of projects. The use of clear communication, feedback and shared goals was also shown to promote trustworthiness between the academics and practitioners and the projects.
Through working together to develop a shared understanding and links between theory (academic perspective) and practice (classroom teacher perspective), all participants felt prepared to effectively use the framework modelled in their TE experience to share skills and knowledge essential to the implementation and sustain their project with school based stakeholders.

The acknowledgement, recognition and reward of stakeholder efforts and for identified student gains were shown to enhance the use of the project. Leadership support also promoted the interconnection of required project enhancing factors. This was evident through the successful implementation of all projects. The support of the leadership team contributed to the allocation of the required time, resources and increased project status within schools. The removal of the leadership supports in my project highlighted how this directly contributed to the breakdown in the interconnection of required factors such as time, shared responsibility and communication opportunities. This lack of support directly contributed to a reduction in project status by increasing demands placed on staff members.

These results indicate that implementing a research-based project is a process and not a single event as successful implementation is dependent on the interconnection of a combination of RTP factors. This interaction of factors is critical to enhancing the sustainment of research-based projects in practical applications and without this interconnection the success of research based project sustainment will be compromised.

The following section describes the expansion phase, the third and final phase of this research. The expansion phase concludes the data collection process with a focus group session.
5.31. **Explanation phase results across the six cases**

Key RTP factors have been identified and explained through the practical experiences of six specific RTP cases that were investigated using the replication logic identified in the Methods chapter. The interaction of those factors has been identified through the comparison of sustained, scaled and extinct RTP cases. A summary of the key factors and their connections that have exerted an influence on the status of each case are presented in this cross case analysis. They are informed by data collected within each of the sub themes; support, collaboration and responsiveness of research.

5.32. **Key RTP factors and their connections**

The following section presents an overview of the factors and their connections that were presented as important to the implementation, sustainment and scalability of RBP by the research participants.

**5.32.1. Masters Course/Teacher Education**

The depth of knowledge gained through the Masters course was identified as a support by each research participant and was referred to in the data collected across each of the sub themes. This teacher education experience was prioritised as a key RTP factor as it was identified as being critical to the understanding of skills, knowledge and attitudes essential to collaboration and to ensuring research could respond to the needs of individual settings. There was also consistency across all research participants in their responses about the effectiveness of the course structure as it presented essential theoretical knowledge through consistent practical components. These practical components included advanced organisers which presented expectations graphically at the start of every unit and the consistency in
delivery and structure across subjects. The assessment tasks were effective in
building the Masters students’ capacity, as they were relevant to school settings. All
participants stated that the course was demanding and equally beneficial in
increasing the depth of research based knowledge and the ability to be instrumental
in implementing it. The merging of theoretical and practical components was
described as being highly effective in delivering new knowledge and preparing
students in their ability to transfer the newly gained skills and knowledge with other
school based educators.

All participants were part of the same Master’s course and presented differences in
comments about the type of support they gained from their teacher education
experience. These various types of support provided by the teacher education
experience ranged from Meg’s responses that highlighted the benefits of practical
tools such as the Gannt chart to Sam’s explanation of the advantages in ensuring
consistency in comprehension of a common educational language and the way that
language was used to communicate knowledge across all stakeholders. Sam also
identified the benefits of having a colleague whom she completed the course with at
her setting.

5.32.2. Collaboration

Collaboration was presented as being essential to the implementation, sustainment
and scaling of Wilma’s, Sam’s, Mary’s and Diane’s projects. The reduction in
collaboration levels contributed to the extinction of Meg’s and my projects through
the reduction in opportunities for communication, shared responsibility and
ownership. All participants linked their depth of knowledge of the elements required
to promote collaboration within their schools to their Masters course experience.
Mary described that the course structure encouraged a “lived experience” in that there was an expectation that an action that incorporated a demonstration of new knowledge would follow. Diane stated that through modelling the course structure she was able to share knowledge about collaboration in a similar way with school staff members through staff meetings, professional readings and staff development days. Sam and Wilma stated that through their project scaling experiences they learned that when courses are complete and comprehensive with practical experiences woven into their framework, they have the capacity to reinforce essential learning. They explained that through collaborative efforts teachers can be prepared to implement projects as a whole rather than in parts.

Both Meg and I also attributed our depth of collaboration knowledge to our TE experience. Through our project implementation experience we recognised the need for united efforts that were understood and shared by all. Meg identified that the decision to rapidly scale her project was not made collaboratively. She also expressed that the project workload was not shared and that no additional time was allocated to enhance communication opportunities as the project was scaled. Meg indicated that these factors contributed to the extinction of her project. My project was scaled successfully with strong support from all stakeholders until the new principal and deputy arrived. They were not committed to the project and this reduced the schools united effort and support for the project, which ultimately contributed to the extinction of the project.

The need for united efforts that were based on cooperation, respect and engagement in pursuit of genuine questions, problems and solutions were identified by all participants. Mary and Diane identified that shared responsibility; ownership and
enthusiasm grew as the project addressed genuine concerns across her school. Sam explained that collaborative cultures may not always be harmonious but a shared language and common goals are essential. Mary explained that with opportunities to promote substantive and frequent interactions her project was able to address a genuine need and it became part of the school policy. This shared responsibility and ownership led to the increased status of the project, which led to increased stability and comfort. Both Meg and I identified the need for alignment of the project and school’s goals with shared ownership and unity. It became clear that the status of our projects significantly reduced as the unity in support and allocation of time for our projects reduced.

5.3.2.3. Leadership

All participants identified leadership as a key support and all experienced a change in leadership personnel. Five out of six participants described that the new principals supported their project. Wilma described the increased traction gained when her personal determination was combined with the support of her principal, whilst I described the impact of the removal of leadership support on the trajectory of my project. Differences in leadership style had a positive and negative impact at individual settings. At five out of six settings the new principals sought to gain a deeper understanding of the project. They supported the projects once they identified the gains resulting from their implementation. At my setting the new leadership regime did not have an interest in learning about the project. They did not share the same common understandings of educational terms as existing staff members. They also introduced additional responsibilities without the allocation of additional time and support. These factors had a negative impact on the status of my project, whilst the change in leadership did not have an adverse impact at the other settings.
5.32.4. Time
All participants suggested that time is a critical factor required to support the practical application and sustainment of research based projects in school settings. Time was linked to the scalability of projects in different ways. These examples ranged from Wilma’s description of the modification of her timetable to allow her time to work with others, while Meg described that she did not have the time required to make resources or provide instruction as her project was expanded. Mary described how that status of her project increased to a whole school priority and this brought an increase in time allocated to her project. As a result it was prioritized above other competing demands. Diane, Meg and Mary commented on the importance of timely evaluation and feedback.

5.32.5. Feedback
All six participants commented on the value of feedback being woven into the design of the project. Effective feedback was identified as being specific, relevant, timely and beneficial in guiding future directions or activities. Sam clearly described that when feedback is detailed, relevant and timely it can guide knowledge of ways to enhance the next phase of the project and cater for stakeholder needs as they occur. Sam also described how she gained knowledge of the readiness levels, intentions and aspirations of staff members through surveys. She stated that this knowledge is critical to directly supporting and addressing stakeholder needs. I described the positive impact of staff enthusiasm for the project, whilst Diane presented her personal determination for the project to succeed as a driving force. Wilma commented on the need for resilience and commitment to the success of her project and Meg described the negative impact of the lack of collegial support as her project was expanded.
The need for consistency in feedback and opportunities for feedback from multiple perspectives was presented by all participants as a way of ensuring that projects remain responsive to student needs. Feedback that is woven into the project design and is emergent (Berends et al., 2001) rather than being given at the conclusion of the project was said to be more effective and enhance flexibility so that the projects can continue to address the changing needs of staff and students.

5.32.6. Project scalability with a complete approach

All participants shared the view that the research project needed to have the potential to be scaled so that it can have a whole school influence. Mary and I explained that the scalability of a project can be enhanced through the use and accessibility of technology. Mary identified the importance of scaling projects within time frames that are effective and responsive to the needs of the stakeholders.

Wilma indicated that through a complete approach and engagement of strong project features, the likelihood of scalability and project success are enhanced. Sam supported this and added that through the weaving of accessibility, feasibility and the practicality of her project a reinforcing effect occurred which enhanced the scalability of her project as practical and theoretical components were merged.

In summary the 6 identified RTP areas and the connections described within and across them were used to inform the construction of the guiding focus group questions. The focus group represented the final phase of the data collection for this study and it sought to gain a complete and comprehensive account across the total participant cohort of how research-based projects were and could be successfully implemented and sustained across diverse practical applications.
5.33. Expansion Phase Results

The expansion phase is the third and final stage of data collection. It went beyond previous phases to present a deeper understanding of those RTP factors and the connections among them that influenced the implementation and subsequent status of six RTP cases. The expansion phase built on the previous exploration and explanation phases by extending the scope of the study to provide the first focus group session. The focus group presented an opportunity for an in-depth collective discussion by participants of how and why RTP factors exerted an influence on the trajectories of the cases. This phase also sought to identify any additional RTP factors reported by participants that were not sourced through the literature or participant responses during previous phases. These results are used to respond to the following research question:

What factors, other than those identified in the exploration and expansion phases, contribute to the status of RBP in inclusive education settings?

Additional question established after the analysis of the data collection through the exploration and explanation phases- What were the differences and consistencies in the relationships between the RTP factors that contributed to the status of the projects that were identified by the research participants?

The focus group questions created to respond to this research question were derived from the previous data collected from surveys, Master’s projects, and interviews conducted through the exploration and explanation phases (see Methods chapter). The key priorities extrapolated from these responses were used to develop the focus group questions. These questions reflected the key priorities identified during
previous phases. The questions then proceeded to seek a deeper understanding of how the RTP factors and their relationships contributed to the status of the cases.

The chapter is presented in three sections. The first section presents a summary of the organizational details of the focus group. This is followed by the consistencies in the RTP factors and their connections that were described and prioritized by the research participants. The second section presents the inconsistencies identified in the discussion when compared with the results of other phases. The status of the individual cases will be presented with participant responses throughout this expansion phase. The third section provides an overview of the data collected through the exploration, explanation and expansion phase of this study. It concludes with the presentation of figures that identify the significant relationships that contributed to the scalability or extinction of the individual cases.

5.34. Summary of the structure of the focus group

All members of the group were known to each other and arrived on time. They gathered for afternoon tea and were briefed on the procedure of the session. They were comfortable with one another and appeared eager to share accounts of their experiences. The structure of the focus group provided an open forum for discussion for the participants and continued for 75 minutes. I facilitated the session to maintain its flow and was available to address any group dynamic issues as they arose. Given my role of participant researcher, I chose to maintain the role of facilitator so as not to influence participants with my responses (see Methods chapter). The focus group was videotaped to display verbal and non-verbal elements such as gestures, facial expressions, articulated exchanges and pauses. Initially participants were a little anxious about the video recorder. After 5 minutes they did relax and seemed
unaware of the video recording that was taking place. This process allowed for repeated studying of the session and cross checking of discussions and body language.

5.35. **Key RTP priorities identified through the connections of the RTP factors**

The following section presents an overview of the consistency in factors identified, and the connections among them in the areas of implementation, sustainment, scalability or extinction of individual research to practice cases. This section is organized around the group responses to the focus group questions. It is structured according to the four key areas that represented the priorities extrapolated from the group discussion. These areas include: collaboration and feedback, scalability and time, leadership and teacher education.

The focus group questions that related to each of these areas are presented within them. These questions follow a statement which links the question to the data collected through the previous phases. The focus group question sought additional clarity and details on the area introduced. The questions were followed by a description of the discussion that unfolded within and across the unique school settings. The discussion was not limited to the guiding questions. They were created to encourage an in-depth discussion to enhance the comprehension of the RTP factors and their interrelationships that consistently emerged within and across specific RTP cases. The questions are grouped together and are presented at the start of each of the areas. The group discussion is presented within the areas rather than as a response to individual questions to avoid repetition and to identify the
interrelationships prioritised by participants prior to subsequent questions within the same area being asked.

5.36. **Collaboration and feedback**

5.36.1. **Focus group questions**

All 6 case studies within this project identified the importance of shared responsibility and ownership in implementing and sustaining Research Based Projects (RBP) in schools. How can shared responsibility and ownership be achieved and scaled up?

Collaboration has also been cited as a critical factor in implementing and sustaining RBP in schools. A comment was made about collaboration not always being harmonious and there is sometimes a need to push boundaries in some communities of practice to get things done. What can be done in schools to foster respectful disagreement without animosity?

Voluntary teacher or stakeholder participation in the project and student gain has been suggested as key RTP components through literature based assertions as well as data collected from this research. How do you ensure maximum student opportunity if teacher participation is voluntary and not all teachers want to participate? (For example a student would likely benefit from the RBP but the class teacher doesn’t want to participate).

5.36.2. **Responses**

The focus group began with a discussion on collaboration. Collaboration was described to be a situation where stakeholders all worked together to meet a common goal. There was a subject in the course about collaboration with a compulsory
assessment which involved developing a PD module on collaboration for use in schools. This assessment and unit was described as highly beneficial and practical. It was presented as being critical to implementing and sustaining research based projects in schools through all three phases of this study. During this phase participants provided additional details that described and linked the many factors that were reported to enhance collaboration within and across their schools. There was a consensus that the knowledge and skills gained from the Masters Course experience greatly assisted with the implementation and sustainment of the projects. Participants agreed with Mary’s description that the course structure encouraged a “lived experience.” Meg added that throughout the course there was an expectation that an action, which incorporated a demonstration of new knowledge, would be followed by the expectation that we would demonstrate how we would share this new knowledge with our school-based colleagues. Diane interjected that through modelling the course structure in her school she was able to share knowledge about collaboration in a similar way with staff members. She elaborated by describing that this was done through staff meetings, professional readings and staff development days. Sam and Wilma reported that as their project became scaled, they realised that when courses are complete and comprehensive with practical experiences woven into their framework, they have the capacity to reinforce essential learning. Sam and Wilma linked their experiences of the scalability of their projects to collaboration when they explained that collaborative efforts are essential for teachers to be able to implement projects as a whole rather than in parts.

During the discussion participants continued to link multiple factors identified through previous phases when recounting the importance of collaboration on the status of their projects. A strong consensus that well designed teacher education
opportunities can contribute to teachers feeling sufficiently prepared and that this creates an avenue for research based practices to be effectively used in classrooms was expressed. The discussion moved to reinforcing the importance of linking factors so that other stakeholders are encouraged to be involved in the projects. Mary, whose project was scaled within and beyond her setting, provided a summary of the relationship between key elements identified by participants as critical if projects are to survive in school-based applications:

To get people involved, they needed to be taught the processes (the procedures, expectations and responsibilities required to implement and sustain the projects), they needed to get up to speed with it. Up skilling and empowering the whole staff so the whole school was aware of the project and its details. It needs to be appealing in that it needs to be easy, doable quick to administer and realistic in time expectations. The website was also useful.

(Mary as cited in Focus group, 2009, p.5).

Both Meg and I attributed our depth of collaboration knowledge to our TE experience even though our projects became extinct. We described that as the strength and status of our projects began to reduce, the importance of previously identified collaborative cultures became increasingly evident. Through our project implementation experience we recognised and reported a need for united efforts that were understood and shared by all. Meg explained that the decision to rapidly scale her project was not made collaboratively. She also expressed that the project workload was not shared and that no additional time was allocated to enhance communication opportunities as the project was scaled. Meg stated that the collection of these factors contributed to the extinction of her project. I reported that
project was scaled successfully with strong support from all stakeholders until the second new principal and deputy arrived. I explained how the new leaders were not committed to the project and this reduced the schools united effort and support for the project. I suggested that it was the breakdown in the strong relationship between these factors that ultimately contributed to the extinction of the project.

Collaboration was again linked to the Masters course as participants expressed that the course increased their depth of knowledge of the complexities required to enhance collaborative cultures. The importance of collaboration was again echoed by all through the discussion. There was an agreement that collaboration did not always have to be harmonious. Participants suggested and there is sometimes a need to push boundaries in some communities of practice to get things done. They recommended ways that school staff could foster respectful disagreeing without animosity:

The improving of student outcomes needs to remain a central common goal. Taking the personal nature out of it, taking the focus away from the teacher or teaching and having it on improving student outcomes is the key (Sue as cited in Focus group, 2009, p.5).

Yet you need to be aware that there will always be some people who may not be happy due to other underlying issues or other variables but the common goal without the personal agenda is how you can get passed that (Diane as cited in Focus group, 2009, p.5).

The collaboration, feeling part of it is also important but keeping the children as the essential focus. So adjustments may need to be made with the students as the pivotal point (Mary as cited in Focus group, 2009, p.5).
General consensus from the four participants whose projects were successfully scaled was that collaboration was critical to enhancing the strength of their individual projects. Meg and I described how the reduction in collaboration at our individual settings contributed to the extinction of our projects. We reported that the reduction in collaboration within our settings led to the extinction of our projects due to the decreased opportunities for communication, shared responsibility and ownership.

Reports made through the focus group went beyond data collected through the previous phases to link comments about collaboration to the need for ongoing feedback. All participants supported those perspectives presented in the previous phases that the value of feedback was increased when it was flexible and woven into the design of the project. The discussion continued with a collection of suggestions that combined to describe effective feedback as being specific, relevant, timely and beneficial in guiding future directions or activities. Sam added to the discussion by clearly describing that when feedback is detailed, relevant and timely it could guide knowledge of ways to enhance the next phase of the project and cater for stakeholder needs. Additional links with other factors were identified as Sam explained how she gained knowledge of the readiness levels, intentions and aspirations of staff members through surveys. She stated that this knowledge was critical to enhancing collaborative cultures as it gave stakeholders the knowledge and capacity to directly support and address the needs of others. Sam suggested that this interrelationship of RTP factors assisted in the sustainment and scaling of her project. As the discussion continued I described the benefits of the positive impact of staff enthusiasm for my project, whilst Diane presented her personal determination for the project to succeed as a driving force. Wilma commented on the need for resilience and commitment to
the success of her project and Meg described the negative impact of the lack of collegial support, as her project was due to be expanded.

Mary and Wilma offered strategies to encourage less enthusiastic staff members to become involved. These included collaborative weekly meetings to offer feedback and discuss pros and cons that they had experienced during the project implementation and sustainment phases of the projects. They suggested writing these concerns and strengths in a journal and knowing that they had to share these entries at weekly meetings was said to encourage staff to keep records. Mary and Wilma added that this expected participation in weekly meetings encouraged ownership as if they didn’t share or participate it would be evident to all at the meetings.

All participants supported Wilma’s claims “that once student gains were evident, interest and growth in project ownership was a natural progression” (Wilma as cited in Focus group, 2009, p.5). As the discussion continued, participants collectively suggested ways to enhance interest in the project if student growth was not evident early in the project implementation. All participants established that the project must fit within the whole school plan and PD agenda and that all staff members need to understand how it fits with opportunities for feedback and collaboration throughout. It was suggested that this would allow staff members to be aware of when student gains are expected. Teacher education and professional development were linked to the increasing of knowledge and understanding required to comprehend key components of the project. Feedback and collaboration within teacher education courses was cited as being essential to support students and assist participants in catering for the needs of stakeholders within their school settings. Meg and my projects were the only projects that became extinct yet we both agreed and supported
these claims. I did add to the discussion by describing the contrasting impact of my research-based project being part of the whole school plan and then being removed from the whole school plan. All participants reinforced the importance of the interrelationship between feedback, collaboration and whole school support as they expressed that they comprehended the results of their withdrawal as my setting.

Meg went on to share her account of the lack of collegial support at her setting and how that negatively impacted on the status of her project. This prompted a discussion in which all participants agreed on the importance of shared responsibility and ownership with inbuilt opportunities for feedback and communication when implementing and sustaining their individual projects. During the focus group session practical information on how to promote shared ownership and collaboration was identified. All participants linked the accessibility of project information and opportunities for feedback with increased knowledge of the project details to the successful status of their projects. The skilling up of staff and informing them of all project details was presented as being essential to making them feel valued, empowered and responsible for the success of the project. There was a consensus in the input of focus group members that project ownership was enhanced by the project’s usability, appeal and feedback on student gains. All participants agreed that projects that were easy, realistic, quick to administer, trustworthy and implemented within manageable time expectations were more likely to elicit positive feedback and be sustained.

The participants indicated a need for collaboration, including the requirement of consistency in feedback and opportunities for feedback from multiple perspectives. These factors were viewed as a way of ensuring that projects remained responsive to
student needs. The group agreed that as the projects unfolded it became evident that feedback was more effective when it was woven into the design of the project rather than given at the end. Sue confirmed the sentiment of all participants when she stated that “feedback opportunities must be flexible so that the projects can continue to be effective in addressing the changing needs of staff and students” (Sue as cited in Focus group, 2009, p.4).

All participants agreed that collaboration, which included communication and feedback from many stakeholders (from all levels) needed to be ongoing and substantive so that it can be practical, relevant and timely. The relationship between the RTP factors was further described as being more successful when feedback was consistent and addressed teacher enthusiasm, personal qualities and the changing needs of individual stakeholder’s and their setting.

The discussion then progressed to participants sharing their interpretation of the critical links between factors required to promote collaborative cultures within and across their settings. All participants described the need for united efforts based on cooperation, respect and engagement in pursuit of genuine questions. The group viewed these qualities as essential to the success of research-based projects. Mary and Diane indicated that shared responsibility; ownership and enthusiasm grew as the project addressed genuine concerns across their schools. Sam explained that collaborative cultures may not always be harmonious but a shared language and common goals are essential to achieving successful outcomes. Mary explained that with opportunities to promote substantive and frequent interactions her project was able to address a genuine need and it became part of the school policy. Participants reported that this shared responsibility and ownership led to the increased status of
the project, which led to increased stability and comfort amongst stakeholders. Both
Meg and I identified the need for alignment of the project and school’s goals with
shared ownership and unity. It became clear that the status of our projects
significantly reduced as the unity in support and allocation of time for our projects
reduced.

5.37.  Leadership

5.37.1. Focus group questions
In all 6 cases, school based leadership by principals and deputy principals have been
attributed with the ability to make or break RBP in schools. The previous phases it
was indicated that effective leaders should be flexible, approachable, be able to
provide consistency in support, be a good communicator, see things from multiple
view points, be a team player and be trusting. How can these attributes be fostered,
enhanced or mandated in current or future leaders?

An interesting comment was made in one case study about how effective leadership
is vital in driving the project without playing a main role. What could this look like?
How can effective leadership drive a project without playing a main role?

5.37.2. Responses
All participants elaborated on the importance of leadership through previous phases.
There was a strong consensus that leadership was a key contributor to the
sustainment of projects as it is directly linked to multiple factors that could enhance
support or conversely increase competing demands. The only time that the leadership
factor was referred to independently of other RTP factors was when participants
commented on the movement of their principals to or from another setting. All
participants described that they had experienced a change in leadership personnel.
Five out of six participants described that the principals who were newly appointed to their schools throughout the sustainment or scaling stages of the projects all supported the research-based projects.

As the discussion evolved around comments about leadership, it increasingly identified connections to other RTP factors. Wilma described the increased traction gained when her personal determination was combined with the support of her principal, whilst I described the impact of the removal of leadership support on the trajectory of my project. Differences in leadership style had a positive and negative impact at individual settings. At five out of six settings, new principals sought to gain a deeper understanding of the project. Those principals supported the projects once they identified the gains resulting from their implementation and this had a positive impact on the status of four out of the six cases. I shared an account of what occurred at my setting when the new leadership regime did not have an interest in learning about the project. I described that they did not share the same common understandings of educational terms as existing staff members. They also placed additional responsibilities on staff without the allocation of additional time and support. The combination of these factors had a negative impact on the status of my project; whilst the change in leadership did not have an adverse impact most of the other settings. Wilma, Mary, Sam and Diane indicated that the support of their new leaders had the opposite impact on the status of their projects. They described that in each of their settings, their new leaders sought to comprehend the details of the projects. Once the new leaders identified that the strengths of the projects outweighed the challenges, they maintained or increased the allocation of time and resources to the projects. Wilma, Mary, Sam and Diane were united in their claims that the strengthening of the relationship between key factors including leadership
support, time, resources and project status significantly assisted in the scaling of
their projects.

Meg reported that her project had the strong support of her school leaders yet their
decision to promote the project and scale it without consulting with all stakeholders
contributed to its extinction. Meg’s experience highlighted the importance of the
relationship between key factors rather than single factors as she had the strong
support of her principal, yet her project still became extinct because of the lack of
collaboration, shared ownership and responsibility for project goals and resources by
other stakeholders.

Wilma, Mary, Sam, Diane who implemented projects that were successfully scaled
beyond their school, stated that their projects had a strong focus within their schools
because they were given status by the leadership team. They all expressed that
leadership support significantly increased the status of their projects and the
likelihood that those projects scaled as they were afforded greater traction in the
school. I explained that at the outset there was support for my project, which was
subsequently reversed with a change of leadership. As the new leadership reduced its
commitment to and focus on my project, the project’s status reduced and it
eventually became extinct.

Mary reported that principal support also improved the status of the learning support
teacher, which had a positive impact her projects sustainment and scalability. She
continued by describing the changes within the school system. Mary explained that
with the change in Directors of the education system, the commitment to special
education from the systems leaders had significantly reduced. All the other five
participants supported her comments and shared their concerns about the distinctive
difference between the directions of the previous and current leaders of the system on the continuing successful sustainment of their RTP projects:

“In our system the status of a special education teacher has been reducing with the changing leadership model within head office over the past 5 years (Focus group, 2009, p.4).”

Sue and Wilma agreed with Mary’s comments about the status of educators having an impact on the success of the project. I added that the principal as well as the system leaders interpretation of the status of the Special Education Teacher can also have a positive or negative impact as their attitudes can have an impact on the whole staff. Consensus was again reached when participants connected the knowledge gained from the Master’s course with their status within the school and the system. They explained that the course empowered them and gave them increased status within the system. All participants then expressed that with a change of model and a different vision of the new system’s leadership, their increased status significantly reduced. It remained undisputed that the support for research based projects needs to be provided at a systems level to ensure collaboration opportunities that guide and support school principals and staff are prioritised.

All six participants described the importance of a distributive leadership style and linked it to trustworthiness and collaboration. Sue suggested that to be able to dispersed control requires a lot of faith and trust on the part of the principal. She added that it is essential as they can’t run everything on their own and they can’t be expected to know everything. Meg added, “they (principals) are accountable for so much that they need the assistance of others to reach goals and benefit students, teachers and parents” (Meg as cited in Focus group, 2009, p.3). Sam reverted to
clarifying her thought on distributive leadership. She stated, “they don’t really need a depth of knowledge of the change process, it is a skill base that is just in them, and it is just their effective style (Sam as cited in Focus group, 2009, p.3).

5.38. **Project scalability with a complete approach and time**

5.38.1. **Focus group question**

Familiarity, confidence and comfort in the project were also stated as important factors. Many of the interview responses indicate that along with project familiarity and confidence the program must address a real need. The key is accurately determining needs and finding where stakeholders are at and moving forward. How is this done with efficiency and accuracy? How is real need established?

5.38.2. **Responses**

There was a consensus in the group about the need for scalability if the projects were to exert whole school influence. Mary and I explained that the scalability of our projects was enhanced through the use and accessibility of technology. Mary went further and related the importance of scaling projects within reasonable time frames. She described that is was easier to scale her project when she was able to use the student scores generated from the project to inform her instruction and respond to their identified needs within a reasonable time frame.

Wilma specified that in her setting her RTP project was implemented as a complete project, rather than just implementing parts of the project. Wilma reported that the implementation of all the parts of her project increased its scalability and success. Sam supported this and added that as her project was easily accessible, feasible and practical, it had a reinforcing effect, which enhanced its scalability. Diane and
Wilma went on to link systemic support and parental support to the successful scaling of their projects:

Additional support needs to come from above as often principals are told to do it. It has to come from a higher purpose (Diane as cited in Focus group, 2009, p.4).

Yes and the increasing of parent awareness can also have an impact. As if parents know what is better for their children, they will encourage principals to go that way and continue with the projects because they are helping their children. Getting the parents on board is the secret of success, give parents the information they need to prove it works and why (Wilma as cited in Focus group, 2009, p.4).

These reports about scalability sparked a discussion where all participants acknowledged that people who really believe in or are passionate about something have the capacity to drive and strengthen it. All participants concurred that it is hard to disseminate passion to the whole school unless a project or initiative is perceived to be valuable, trustworthy, well planned and accessible. The discussion then led to claims about the importance of agreed practice. Mary expressed that if a project became part of the school policy, staff should be expected to support and facilitate its implementation and sustainment: “if a project is part of the school policy there is an expectation that all staff would support and adopt school policy” (Mary as cited in Focus group, 2009, p.3).

Throughout the conversation, comments about the sharing of passion were consistently linked to collaboration and agreed practice. As the discussion deepened these areas were linked to the project’s potential for scalability and successful
student outcomes. Wendy shared her experience about a year 6 colleague and other staff members who became involved enabling the experience of success to be shared. Wendy stated that as more stakeholders experienced success they became increasingly passionate about supporting the school’s project. She described that this in-turn encouraged them to become proactive in the dissemination of this new passion to others. Mary went further and linked passion to leadership; “People in high places that are passionate seem to have a strong positive impact and it is easier for the passion to be infectious if the right people are on board (Mary as cited in Focus group, 2009, p.3).”

During an extended discussion on the successful scalability of Wilma’s, Mary’s, Sam’s and Diane’s projects and the extinction of mine and Meg’s project, leadership was once again identified by all participants as having a direct impact on other factors which ultimately led to the overall status of the projects. The group confirmed that if people in leadership positions supported their projects, they would be viewed in an influential way making them easier to scale. The discussion then progressed to highlight the importance of parental support. All participants agreed that having the parents on board could contribute to the project success and scalability. Parental support was also connected to collaboration, support, scalability and leadership factors. It was briefly introduced during the explanation phase but additional clarity and specific examples of the positive impact of parental support were provided during this expansion phase. Wendy described that in her case parents were informed of the project goals and this encouraged the staff to provide feedback to parents. As the parents became aware of the project’s benefits, they shared this knowledge with other parents, who in-turn wanted their children to benefit also. Wendy’s comment synthesised the sentiment of the group as she stated that “the
positive feedback from parents about the success of the projects positively encouraged the school leaders to continue to support efforts to sustain our project and time and resources continued” (Wendy as cited in Focus group, 2009, p.3).

As the conversation continued the group acknowledged that group members represented a strong impetus for change through their implementation and scaling experiences. All participants were unanimous that credit should be allocated to the students, as their support for the project also contributed to its increased status. Participants agreed that when the students identified gains they were making, they also supported the project and became drivers for this positive change. During the discussion it became evident that all members agreed with Diane when she asserted “if our students know things are working or want things to work, they keep us motivated” (Diane as cited in the Focus group, 2009, p.5). These comments were linked to the project’s potential to be scaled through statements including; “If we forget they (our students) are soon there to remind us, as they hold us accountable to providing them with the service they expect or require” (Wendy as cited in Focus group, 2009, p.4). The group also shared comments about the benefits of students’ self-monitoring and its positive impact on their progress. “When we work collaboratively with students they are able to be strong drivers in looking for what works so our projects must be able to be used so that they all benefit” (Mary as cited in Focus group, 2009, p.4).

Sue went on to share an interesting insight about agreed practice and how it was critical to the scaling of her project. She commented on new staff and how teaching is the only profession, which claims autonomy. During the exchange participants
responded to Sue with interest in the relationship she described and nodded throughout her explanation:

It is about agreed practice, if it is part of the school policy there is an expectation that when you joined the staff you comply and adopt school policy and do what you can to sustain and promote the school initiatives. You really have to do it that way. The voluntary bit is in the discussion... that way you voice your opinion, share your thoughts but essentially agreed practice encourages participation in school based decisions. Interestingly teaching is the only profession who claim autonomy (Sue as cited in Focus group, 2009, p.5).

There was a consensus amongst participants irrespective of whether projects were scaled or extinct, that including ways to address scalability resulted in whole school influence. It was also identified that projects are more likely to be scaled if systems and schools have clear goals promoting the use of research-based projects. It was confirmed by the participants whose projects were scaled that when these goals are shared and research projects respond to genuine questions, problems and solutions the RTP gap was reduced. All six participants noted that the success of their projects was influenced by the extent to which educators could be involved with the research projects. It was described that by involving multiple stakeholders, strong partnerships that share responsibility and ownership can be developed. It was further explained that these relationships could build a sense of credibility among stakeholders, ultimately supporting the RTP process.

The group reported that time is also a critical factor required for strong and the practical application and sustainment of research based projects in school settings.
Time factors were described as having a significant impact on the scaled or extinct cases in different ways. Examples of the importance of time ranged from Wilma’s description of the modification of her timetable to allow her time to work with others, to Meg’s description that she did not have the time required to make resources or provide instruction as her project was expanded. Mary reinforced her description that when the status of her project increased to a whole school priority, an increase in time allocated to her project. This assisted in the increased status of her project, as she was better able to address competing demands. All participants whose projects became scaled supported Mary’s comments as they established that the status of their projects increased with the allocation of additional time. Meg and I supported these claims, yet this relationship between time, support and competing demands was not identified in our projects as they reduced their status within our schools and became extinct.

Diane, Meg and Mary commented on the importance of timely evaluation and feedback on reinforcing key project features and eliciting changes as required. Diane’s report synthesizes the sentiment of all participants when she identified the relationship between multiple factors as they occurred at her setting:

> It has to fit with the plans and needs of the school. It must fit into the whole school reform and PD agenda at exactly the right time and you must show how it fits in. This is where the whole lit review and depth of knowledge comes in, you need that background knowledge and understanding to show and share how it fits in. It must cater for an established need and be timely so that it is actually relevant and not too early or too late (Diane as cited in Focus group, 2009, p.4).
Meg responded by stating that “time was key in the implementation stages” of her project. She explained how time for making resources, the sharing of knowledge, feedback and recording was vital. Other participants interjected with multiple comments expressing that time was a priority and was linked to many RTP factors throughout the implementation, sustainment and scaling phases of their projects. They explained that time was required to learn skills and rehearse them. It was essential to cater for the changing needs of stakeholders and it was required to continue as the projects evolved. Participants whose projects were both scaled and extinct identified the importance of time on the successful interrelationships between the RTP factors.

5.39. Masters Course/Teacher Education

5.39.1. Focus group question

A number of you suggested that the university course framework was very effective in providing a structure or scaffold to promote a depth of knowledge. Specifically how did the university course framework make a difference to your project? How can we develop this depth of knowledge learned as a result of our coursework in other practitioners within schools?

Each participant identified the depth of knowledge gained through the Masters course as an essential support to the implementation and scaling of research-based projects. It was referred to in the data collected across each of the areas identified. The group conversation acknowledged that the teacher education experience was a key element that underpinned the relationships across multiple factors in the six direct RTP cases. It was identified as being crucial to the understanding of skills; knowledge and attitudes essential for collaboration and to ensure research is
comprehended and used effectively. There was consistency in comments confirming the effectiveness of the course structure. This structure was described as being so effective as it presented essential theoretical knowledge through a series of regular practical components. All six participants agreed that their teacher education experience delivered a depth of content knowledge along with an awareness of how to share that knowledge with staff as required. The following dialogue presents a series of quotes that reflected the sentiment of the group about the knowledge gained through the course:

Gave us confidence and increased depth of knowledge (Meg as cited in Focus group, 2009, p.5).

We could share that depth of knowledge we gained by providing them (staff) with the key information about the practical efforts required (Wilma as cited in Focus group, 2009, p.5).

Not everyone wants the depth (of knowledge) we got. It needs to be ……this is what it looks like in our classrooms; here is the scaffold so this is how you do it. They are so busy with the day-to-day things so they only want the practical elements and an explanation of why we should use them (projects) for our kids. We need to be able to say this is what it looks like for you. We have the depth to spell it out for them. All they want to know is what it looks like, they don’t need to know everything but a resource person does as they can guide them in their practical knowledge as needs and questions arise (Mary as cited in Focus group, 2009d, p.5).

Participants continued to describe practical components, which contributed to making the course effective in the delivery of the “lived experience, which increased
our knowledge and skills and ultimately our status within our schools” (Diane as cited in Focus group, 2009, p.5). These components included the consistency in delivery and structure across subjects including advanced organisers, which presented expectations graphically at the start of every unit. All participants agreed that assessment tasks were effective in building the students’ capacity, as they were relevant to school settings. All participants eagerly supported Sue’s report that the course was very demanding yet it was equally beneficial in increasing the depth of research-based knowledge and the ability to be instrumental in implementing it. The merging of theoretical and practical components was again unanimously agreed upon as being critical to the imparting of new knowledge and preparing students in their ability to transfer the newly gained skills and knowledge with other school based educators.

Teacher education was linked to collaboration, support, accessibility, usability, trustworthiness and the responsiveness of research throughout the discussion. Reports that the Master’s course experience increased our depth of knowledge and capacity by giving us the confidence to share theoretical understandings through practical experiences to support our students continued to resonate. The following comments echoed the sentiment shared by all participants about how increased stakeholder knowledge assisted in the increased status of project. Mary, whose project was scaled within and beyond her setting, reinforced earlier comments made about the changing status of the special needs teacher within the school system. All participants again supported her comments and then shared their concerns about the distinctive difference between the directions of the previous and current leaders of the system. Mary’s account expressed the sentiment of the group discussion:
“Because we were responsible for implementing the research based projects our increased status seemed to also have an impact on the success of the project. It is not only the systems notion of Spec Ed Teacher status which can have a positive or negative impact it is also that of the principal themselves, as their attitudes can have an impact on the whole staff. The knowledge gained from the Master’s course empowered us and gave us some status within the system, but now with a change of model at a systems level and the different vision, that status has significantly reduced. I don’t know where we stand, it has been changing so much over the last 5 years, it even changes within schools. There is confusion now sometimes I even feel we are an aid. The confusion is also reflected in how other staff members also looked at us” (Mary as cited in Focus group, 2009, p.5).

The focus group conversation about the change in the school systems elicited a range of mixed emotions from participants. They unanimously expressed the benefits that their teacher education experience had on their capacity to promote the use their selected research based project, yet were disappointed that “the new leaders did not have the same commitment to inclusive education as the previous leaders” (Wilma as cited in Focus group, 2009, p.4). They all agreed that the intentional linking of their subjects within the course assisted in reinforcing key ideas and this assisted in aligning their theoretical and practical knowledge, however felt that their “wealth of knowledge could be shared with other school staff to help the kids as had been planned under the old model” (Diane as cited in Focus group, 2009, p.4). Another key feature identified by all six participants was that courses are more beneficial when they directly respond to teacher needs through a clear and consistent approach. Mary expressed that the course was very beneficial and gave us the confidence to
share our new knowledge but the dismantling of the Special Education arm of the system made us powerless.

Differences in comments about the type of support gained from the teacher education experience were identified. These differences built on factors introduced in the explanation stage and included Meg’s identification of the benefits of practical tools such as the Gannt chart (a bar graph illustration of the schedule of the project which identifies a breakdown in structure) to Sam’s explanation of the advantages in ensuring consistency in comprehension of a common educational language and the way that language was used to communicate knowledge across all stakeholders. Sam also identified the benefits of having a colleague whom she completed the course with at her setting.

Comments on the Masters emerged in other areas discussed during the focus group. The preparation experienced by the participants was reported as being highly effective in building their capacity to deliver and implement new content within their school settings and beyond. The experiences gained through the course were reported to have changed the educational expectations of each participant. This was reflected in their individual settings as all six participants expressed that they successfully implemented a research-based project in their settings. Four of which continued to be scaled and two became extinct, yet there were no differences identified during the discussion about the benefits, structure or challenges of the course.

5.40. **Summary of the consistencies identified through the focus group**

The focus group format and questions made it possible for participants to identify connections between the RTP factors and present practical examples of these
relationships as a result of the implementation, sustainment or extinction of their specific RTP cases. Initial factors identified in the exploration phase were categorised in the sub themes of support, collaboration and responsiveness of research. These reports were organized using the 16 succinct RTP factors through the explanation phase. During this expansion phase participants built on these individual reports and went further to collectively present the relationships between identified factors. The focus group discussion gave participants an opportunity to elaborate on their experiences and compare them across cases. Through this cross case comparison additional details emerged and participants discussed the interrelationships of factors as they developed through the different stages of their projects. An overview of the RTP factors and their connections that have exerted an influence on the status of each case have been presented within the four key areas consistently referred to during the group discussion. The themes that emerged represented the interrelationships between the RTP factors that were extrapolated from the analysis of the reports generated through this final expansion phase. These areas are not mutually exclusive but are representative of the links that were presented by participants as key contributors to the status of their projects. Through these specific accounts, the interrelationships among multiple RTP factors that influenced the status of the six unique cases were described repeatedly.

Participants had difficulty separating or isolating factors and all participants described factors according to their connections. Reports of these connections became stronger as the discussion unfolded. Participants presented more detailed accounts of their experiences as they progressed through the three phases of this study.
5.41. **Inconsistencies identified by participants**

All participants agreed on all RTP factors and their connections except for the comments made about a National Assessment Program - Literacy and Numeracy (NAPLAN) assessments. These assessments commenced in Australian schools in 2008. Every year, all students in Years 3, 5, 7 and 9 are assessed on the same days using national tests in Reading, Writing, Language Conventions (Spelling, Grammar and Punctuation) and Numeracy. Diane’s comments during the discussion identified a relationship between support, leadership, collaboration and the NAPLAN results of students at her school. She stated:

> That in today’s society established need can also be displayed through NAPLAN results. These results display an expectation of where our students need to be. They are another measure of accountability. There is a clear mandate in schools stating that we must improve the *blue line (average results for the school)* (Diane as cited in Focus group, 2009, p.5).

Diane reported that at her school staff spent many meetings in collaborative discussion about the blue line and ways to support students in improving their results. She identified that her school leaders wanted to show points of growth to address the declining numbers in many schools across the system. Diane went on to state that her leadership team wanted to show that they are a good school and the NAPLAN statistics are very clear and were used to increase accountability and status.

These comments promoted a debate about teaching to the test and the usability and trustworthiness of NAPLAN data. All participants indicated that data generated from research based projects were more effective than NAPLAN results and could be used
to show they were doing something to improve results and that they also offered solutions to address the identified needs. Diane concluded by stating that principals and leaders want NAPLAN results. She went further to state that our projects have identified ways to improve the results of students but Diane explained that she believed the NAPLAN results are still beneficial to compare student data across schools. The discussion about the NAPLAN assessment was the only time that inconsistency across participants was identified.

5.42. **Summary of the results collected during the expansion phase**

During focus group all participants provided a more detailed account of the previously identified RTP factors and their relationships. Reports by participants of the interrelationships among the RTP factors became more descriptive as the focus group discussion evolved. A summary of those key areas that exerted an influence on the status of each case was presented within four areas, along with an account of the ways in which they were connected.

Participants reported the connections between themes and how they had a positive or negative impact on the status of the projects. All participants agreed on the importance of the identified themes and their connections. A discussion on NAPLAN testing was the only area identified that generated division in the responses of participants. Diane was the only participant from a high school setting and the only participant who advocated for the use of the NAPLAN assessment within schools. The results derived from focus group discussion identified differences in the interrelationships, which contributed to the status of each case within their unique setting. The responses from the two cases that became extinct described many positive factors, yet the break down in the connections between RTP
factors contributed to different negative experiences, leading to gradual extinction in both cases. In both cases that became extinct, the participants explained that the decisions of the school leaders contributed to a breakdown in the positive relationship between RTP factors. Meg described that the decision by the executive team to scale the project was not made collaboratively with the staff. This contributed to lack of ownership and support from the stakeholders who were to implement it. I described my new principal and deputy did not order the extension of the project yet their lack of verbal support, interest and resources contributed to a reduced status, lack of time and the increase of competing demands on stakeholders.

5.43. **Overview of the results collected through the three phases of this study**

This study collected data through three distinct phases. To summarize the first phase, the exploration phase, explored prior literature based RTP assertions and presented initial RTP factors identified by each of the participants as a result of their experience. The second phase, the explanation phase, further explained the influence of those factors and others in direct RTP cases. Participants found it difficult to respond to isolated factors in the explanation phase and connections between them were identified. Participant responses became more detailed when they compared experiences across their cases in the final phase. During the third and final phase, the expansion phase, participants expanded on the complexity of the critical connections between RTP factors and themes that both enabled and interfered with the successful translation of the selected research projects in their settings.

The relationships between the projects, the people involved and their preparation continued to resonate as being vital when participants reported on the key RTP factors that built their capacity within their school-based contexts. Participants all
reported that for their projects to maintain strength and effectiveness their project content needed to address the changing needs of the staff and students.

Table 6.1 presents an overview of the RTP factors and their relationships that were prioritized by participants through their individual responses during the exploration and explanation phases. The responses from participants are not reiterated across phases. During the explanation phase, participants found it increasingly difficult to isolate RTP factors and additional information identifying relationships between RTP factors became increasingly evident. Participants responses collected through the discussion during the expansion phase went further to confirm the complexity of the relationships between the RTP factors identified by the participants within and across cases as they provided a more detailed account of their experience. All participants, including those of extinct and scaled cases, supported the importance of these relationships. The significance of the interrelationships between the RTP factors identified through the extinct cases became more evident as they were withdrawn. The key resounding interrelationships presented within the expansion phase were strongly supported by all participants. There was consensus in the sentiment of the group that the sustainability and scaling of research-based projects was intuitively enhanced when relationships promoting student gains, teacher capacity, whole school ownership, complete and comprehensive project designs were promoted. Participants found it difficult to accurately describe their unique RTP accounts when RTP factors were presented in lists. Table 6.1 identifies the increasing detail presented by participants about the importance of the interrelationships between the RTP factors as they progressed through the three phases of this study.
Table 6.1
Key emphatic themes presented in each case during the three phases of the study

<table>
<thead>
<tr>
<th>Case</th>
<th>Exploration Phase</th>
<th>Explanation Phase</th>
<th>Expansion Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chris</td>
<td>United decision making</td>
<td>Stakeholders appreciation and enthusiasm</td>
<td>TE is critical to promoting skills, knowledge and attitudes and should be clear and consistent to be readily transferred. Essential theoretical knowledge transferred through practical components.</td>
</tr>
<tr>
<td>(extinct)</td>
<td>Student gains</td>
<td>Useful standardised data that elicited positive responses</td>
<td>Increased knowledge leads to increased confidence contributing to the transfer of relevant information to others</td>
</tr>
<tr>
<td></td>
<td>Consistent and standardised project</td>
<td>Flexibility in design</td>
<td>Very demanding, equally beneficial</td>
</tr>
<tr>
<td></td>
<td>Relevant and consistent feedback</td>
<td>Withdrawal of leadership support</td>
<td>Reduced leadership support has a negative impact on many RTP factors and contributes to a cycle of extinction</td>
</tr>
<tr>
<td></td>
<td>New leadership failure</td>
<td>Reduced communication</td>
<td>New leaders require common understanding and commitment to projects for them to be sustained</td>
</tr>
<tr>
<td></td>
<td>Effective TE course structure</td>
<td>United efforts understood by all</td>
<td>Collegial support, awareness of project goals and communication are essential to projects scalability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Importance of RTP relationships became more important as they were withdrawn</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scalability potential</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continuing not isolated event</td>
<td></td>
</tr>
<tr>
<td>Mary</td>
<td>Website support</td>
<td>Time frames that are responsive to changing needs</td>
<td>Status of the special needs teacher is impacted by the status and support of school and education system leaders.</td>
</tr>
<tr>
<td>(Scaled)</td>
<td>Resource preparations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beyond setting</td>
<td>Responsive to student needs</td>
<td>Project status within the school</td>
<td>Knowledge gained from the TE experience empowered our capacity</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>School ownership</td>
<td>Embedded in school culture through whole school policy</td>
<td>Adjustments need to be made with students as the pivotal point</td>
</tr>
<tr>
<td></td>
<td>User friendly, easy to up skill staff</td>
<td>Comprehensive approach to address genuine concerns</td>
<td>To be appealing projects need to be complete, easy, doable and quick to administer</td>
</tr>
<tr>
<td>Practicality and depth of TE course</td>
<td>Technology support</td>
<td>Clear consistent PD</td>
<td>Status or personnel impact the status of the projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Timely detailed feedback</td>
<td>Less enthusiastic staff can be encouraged through shared accountability and responsibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Substantive and frequent interactions to promote positive partnerships</td>
<td>Projects that address scalability are more likely to succeed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shared involvement and ownership increases project status</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lived TE experience</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Effective adoption of features</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continuing</td>
<td></td>
</tr>
<tr>
<td>Diane</td>
<td>Leadership support</td>
<td>Scalability potential of project</td>
<td>Intentional linking of subjects and clear and consistent frameworks reinforced key ideas</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------</td>
<td>----------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Personal motivation</td>
<td>Validated</td>
<td>TE was highly effective in building capacity of participants and their staff</td>
</tr>
<tr>
<td></td>
<td>Practicality of TE experience</td>
<td>United efforts incorporating feedback and collegiality</td>
<td>Feedback is most effective when it is flexible and is woven into the design of the project</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Part of school culture and calendar</td>
<td>Students self monitoring can contribute to the promotion of projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replication of TE structures to share new knowledge</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wilma (Scaled beyond setting)</th>
<th>Staff and leadership support and involvement</th>
<th>Part of whole school assessment plan</th>
<th>School system leaders can significantly impact inclusive education initiatives.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Responded to identified school need</td>
<td>Leadership by example</td>
<td>When projects are complete and comprehensive with practical experiences they have the capacity to reinforce essential learning</td>
</tr>
<tr>
<td></td>
<td>Practicality and depth of TE course</td>
<td>Simplicity of implementation and monitoring</td>
<td>Collaboration is essential for teachers to implement projects as a whole rather than in parts</td>
</tr>
<tr>
<td></td>
<td>Parent support</td>
<td>Valued, useful and standardised data</td>
<td>Well designed TE creates an avenue to promote RBP in classrooms</td>
</tr>
<tr>
<td></td>
<td>Easily comprehended project materials</td>
<td>Importance of the little things</td>
<td>Increased traction is possible when personal and leadership</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Graphic organisers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Complete approach</td>
<td></td>
</tr>
<tr>
<td>Retraining for new staff</td>
<td>Resilience and commitment</td>
<td>determination are combined</td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------------------</td>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>Time for ongoing PD</td>
<td></td>
<td>Parental support can encourage accountability and scalability of the projects</td>
<td></td>
</tr>
<tr>
<td>Depth of theoretical and practical knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sam (Scaled beyond setting)</th>
<th>Catered for staff and student needs</th>
<th>Part of school policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff enthusiasm and support</td>
<td></td>
<td>Student monitoring</td>
</tr>
<tr>
<td>Strong TE course structure built our capacity</td>
<td></td>
<td>Project growth links to student gains and staff commitment</td>
</tr>
<tr>
<td>Model school PD on course</td>
<td></td>
<td>Building capacity and rapport through shared comprehension of educational terms</td>
</tr>
<tr>
<td>Flexibility in design</td>
<td></td>
<td>Being part of a cohort</td>
</tr>
<tr>
<td>Realistic demands</td>
<td></td>
<td>TE course built practical knowledge and experience into a theoretical framework</td>
</tr>
<tr>
<td>All embodied course structure with reinforcing effect</td>
<td></td>
<td>Complete and comprehensive</td>
</tr>
<tr>
<td>Readiness levels</td>
<td></td>
<td>Readiness levels</td>
</tr>
</tbody>
</table>

<p>| Sharing of new knowledge improved project and participants status. |
| Consistency in common educational language enhance communication and was transferred to explicit language being used at schools |
| Collaboration is not always harmonious. Improving student outcomes needs to remain the central goal |
| Cooperation, respect and engagement in pursuit of genuine questions and solutions led to project scalability and increased comfort and stability |
| Principals should be trusting to share decision making and responsibility |
| Projects that are realistic and accessible can have a reinforcing effect if theoretical and practical elements are merged |</p>
<table>
<thead>
<tr>
<th>Meg (Extinct)</th>
<th>Time for monitoring and feedback</th>
<th>Collegial support</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Whole team approach</td>
<td>Sufficient preparation and input into decisions</td>
</tr>
<tr>
<td></td>
<td>Depth of TE experience</td>
<td>Align project and school goals with shared ownership and unity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project expansion requires increased supports</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changing setting and stakeholder needs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flexibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Complexity in scaling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Collaboration enhances the strength and scalability of projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rapid scaling of a project without shared ownership has a negative impact on other RTP factors which led to gradual extinction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unity and time are critical to enhance decision made by leaders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Allocation of time to prepare resources and for PD is critical and must be ongoing</td>
</tr>
</tbody>
</table>
These results were further examined and the key relationships that contributed most significantly to the scaling or extinction of individual RTP cases were summarised and represented visually in the following figures. The two cases that became extinct exhibited many positive factors, yet the break down in the connection of these RTP factors yielded negative results. In the two cases that became extinct the factors worked against each other progressively over a one-year period prior to the projects becoming extinct. The four cases that were scaled within and beyond school settings provided examples of how the cyclic interconnection between RTP factors contributed to enhancing the use of research-based projects to address identified student needs.

5.44. Relationship of factors that contributed to the extinction of two individual RTP cases

Figure 6.1
Meg’s factors working against each other
Figure 6.2
Chris’ factors working against each other

5.45. Relationship of factors that contributed to the expansion of four individual RTP cases

Figure 6.3
Mary’s positive relationship between factors
Figure 6.4
Wilma’s positive relationship between factors

Figure 6.5
Diane’s positive relationship between factors

Figure 6.6
Sam’s positive relationship between factors

These figures assisted in identifying the importance of maintaining the integrity of the connections between the RTP factors presented through the exploration, explanation and expansion phases in sustaining research based projects in schools. Each figure was created from the prioritised relationships between the key RTP factor identified by each of the participants as a result of their experience. The next section expands on the importance of the critical connection between RTP factors that both enabled and interfered with the successful translation of research into practice in inclusive education settings. It presents an overview of the knowledge that was confirmed through the progression of this study. As a result of this research it became increasingly evident that the same factors can be both enablers and inhibitors in research to practice initiatives depending on the type of relationships that are formed. The interrelationship between these RTP factors was identified by all participants being much more significant to reducing the RTP gap than the strength or number of individual factors identified within each case.
5.46. Connections between RTP factors that were consistently identified by participants

This knowledge was derived from the analysis and comparison of the cases that provided specific details of how the connections between the RTP factors strengthened and destabilized the status of individual research-based projects in primary and secondary schools. Practical accounts that were reported by participants were cited within each phase of the study. The explanation and expansion phases further described the connections between RTP factors. The following descriptions portray how the figures and knowledge derived from each of the examined cases could guide and enhance practical applications of research-based projects and reduce the RTP gap.

A number of applications or recommendations to promote the use of research-based projects in school and classroom applications were strongly supported by all participants. They capture the connections that emerged from three areas including: people and their capacity, the context that unites schools and universities in preparing teachers and the projects and their content. The six participants continuously identified links across all areas as being essential if the research to practice gap is to be reduced. These applications are based on the recognition that change (being the reduction in the RTP gap) is about the interaction between and among the many individual factors that are required to create reinforcing and responsive RTP cycles. These 13 recommended applications are presented in, however are not strictly bound by three essential areas being; people and their capacity, preparation and the research-based projects.
5.46.1. Ways that were consistently described to engage people and enable them to work to their capacity to create effective inclusive environments

As identified in the literature review, the transference of knowledge and skills essential to the effective sustainment of research-based programs, has been, and continues to be a significant challenge. Through the progression of this study and the analysis of responses from participants, it became increasingly evident that the binary, which separates researchers and educators, is not productive. The data gathered suggested that if the efforts of researchers and educators were joined through a collaborative partnership, they are more likely to have an impact on reducing the well-documented RTP gap. In the present study that partnership assumed the form of a graduate teacher preparation program which served as a vehicle for enhancing a collaborative approach between teachers and researchers in the promotion of research based project skills and knowledge. The analyses of these results expanded on previous recommendations from commentary and intervention research studies to highlight the importance of the relationships between RTP factors. Five recommended applications have been generated to enhance the capacity of stakeholders to enable them to foster educational environments that are effective in implementing and sustaining the use of research based projects to promote student gains:

1. Addressing students’ needs must be a central and mutual goal of a cooperative team of researchers and educators. The characteristics, skills and experiences of individuals implementing and sustaining projects can have an effect on the status of evidence-based projects within school environments. Personal agendas and biases are less likely to have a negative impact on the status of projects if stakeholders
ensure students remain the central focus. If stakeholders unite through effective collaboration and communication, their strengths and expertise can more effectively merge to promote student gains. Sam (2009) highlighted this requirement when described the sentiment of all participants being that collaboration was not always harmonious when boundaries were being stretched. All participants concurred with Sam and Wendy when they added if students were at the centre of the project, unity amongst stakeholders in achieving common goals was easier to achieve.

2. The interrelated nature of the dissemination of passion for projects between stakeholders is easier when projects have been promoted and proven to be valuable, accessible and useable. As described by Meg, Mary, Wilma, Diane, Sam and I passionate people can drive evidence-based projects and the dissemination of that passion is enhanced when people in leadership positions support them. The complexity of the interrelationship of factors relating to the support from school leaders was evident in both scaled and extinct cases. As identified in the results chapters, the four, scaled cases presented the positive cyclic sequence of events that resulted from the relationship of enabling factors that flowed from the support of their principal. These enabling factors included time, resources and increased status (see Figure 6.2), yet were not proven to be effective in isolation as stakeholders continued to link multiple factors in the survey, interview and focus group responses. The two extinct cases also confirmed the importance of the cyclic sequence of factors that flowed from decisions made at a school leadership level. For example, Meg’s executive decided to rapidly expand the project due to its success without collaboratively consulting with other staff members. My new principal did not request the completion of my project, but did introduce other demands without increasing time or resources (See Figure 6.3). Figures 6.2 and 6.3 present the
increasing negative impact of the destructive cycle that resulted from the breakdown in the relationships between RTP factors in both extinct cases. When comparing scaled and extinct cases, the importance of leadership decisions on the relationship of RTP factors was highlighted. Similar RTP factors were connected and became either enablers or inhibitors depending on the sequence of events that resulted from leadership decisions.

3. Research based projects were more effective when they directly responded to the unique contextual realities that teachers and students with, or without, disabilities function. The settings in which participants implemented and tracked the status of their projects varied greatly. Meg’s use of the Gannt charts, Diane’s students monitoring and recording their own results and the use of technology were all examples of ways that stakeholders employed strategies that best served the needs of their unique settings. Given the highly complex, unique and unpredictable responses of stakeholders, projects were more successfully sustained and scaled when researchers and educators worked as a collaborative team with students in school settings. Increased stakeholder support and involvement in project decisions and inclusion of the projects in whole school policies and programs also contributed to the increased status and the likelihood of project sustainment and scaling. Mary (2009) and Sam (2009) shared the examples of ways they increased involvement in their projects. Sam (2009) described her scaffolded presentation of the project features to her. This stated that it replicated the approach used to share new knowledge by the university-based educators throughout the Master’s Course. Sam (2009) further described that with constant modelling and feedback, increased confidence led to increased involvement. Mary (2009) along with all other
participants supported this relationship and increased ownership seemed a natural progression as projects progressed.

4. Educators in schools and universities were described by participants as significant change agents and were referred to by all participants as being critical in transferring and matching research-based projects to the characteristics and uniqueness of students and their settings. The dissemination of research is strengthened when researchers work collaboratively with educators to empower them with the skills and knowledge to further disseminate and demonstrate research projects to colleagues, students and parents in school and community settings. Diane (2009) added that the students themselves were also advocates for effective research and has proven to be able to self-monitor and motivate other students, teachers and school leaders. All participants agreed that the increased number of stakeholders with research based knowledge, skills and capacity contributed to a stronger intellectual based knowledge. This was combined with the relevant practical skills in four of the scaled cases to demonstrate how this relationship enhanced the scalability potential and sustainment of evidence-based projects within schools.

5. Increasing stakeholder knowledge and their willingness and ability to share this new knowledge across schools and systems was presented as a way of earning respect from their peers and increasing status by all participants. This increased respect and status amongst peers was described by Sam as a way of positively impacting the sustainment and scaling of research-based projects in school applications. Meg (2009) added that her principal was key to the relationships that increased the project status when he knew it was going to help the students.
5.46.2. Ways to engaging schools and universities in effectively preparing teachers

Teacher education was presented as a critical link in the implementation and sustainment of research-based projects in school applications across all scaled and extinct case studies. It represented an avenue that combined researcher and educator knowledge and experience to enhance the use of research-based projects to promote inclusive environments that cater for the needs of a diverse spectrum of students. Positive partnerships between people at universities and schools contributed to shared goals and directions. Each of the six school based educators worked with university staff with the shared goal of implementing a research-based project in their individual schools to address student needs. The analyses of the results of all six cases identified four recommended applications generated within the non-exclusive area of teacher preparation:

1. The teacher education opportunity was presented by all participants as an avenue, which provided multiple levels of engagement, ongoing communication and shared goals between the researchers and educators. As a result of the shared teacher education experience, the benefits of explicit links between theory and practice were identified by all participants and were attributed to the successful implementation of all research-based projects. Participants all reported that the teacher education experience successfully assisted in aligning previously regarded differing norms, expectations and roles of researchers and practitioners. Sam, Wilma and I reflected the sentiment of the others as we explained that this was accomplished effectively by merging the course content into a theoretical framework where university staff worked with school based staff to collaboratively decide on which project would best address the needs of their diverse settings. Sam (2009) expressed the sentiment of
others when she stated that she did not realize the positive impact of the teacher education experience on her knowledge and skill base until after she had completed it.

2. The structure of the teacher education course not only instilled new knowledge and skills into course participants but also gave us confidence and ability to replicate this merger of relevant content and process at our settings. Mary (2009) described that the projects themselves were a support as the consistency across the design of all subjects within the course, reduced confusion and provided educators with visible structures and resources that could be utilized to transfer theoretical understandings to enhance practice. Wilma (2009) explained that the theoretical understandings were most effectively shared through practical experiences that catered and were responsive to the variance in interest and abilities of stakeholders at our settings.

3. Teacher education efforts that responded to participant readiness levels and school and personal based contextual boundaries encouraged teacher enthusiasm and effort. The relevance and popularity of teacher education efforts increased when they were perceived as having the potential to address the needs of school-based staff and their students. Mutual respect between researchers and educators was established as teachers’ demonstrated increased determination to use research based projects that were responsive to their needs and promoted student gains. All participants explained that this mutual respect has the capacity to promote the use and sustainment of research projects in schools as the diverse skills and knowledge from both research (university) and practical (schools) agendas are essential to relationships united in catering for the needs of a diverse range of students.
4. Teacher education initiatives that ensured consistent comprehension of terms (pattern language as described by Sam, 2009) and provided scaffolds with clear expectations promoted the use of research in classrooms. A one-size fit all approach to teacher education has not been as effective. Providing teachers with a clear and consistent framework and encouraging them to use this as a scaffold to implement a research-based project in their own setting was referred to by all participants as being highly beneficial in enhancing their use of such projects. This personalized approach provided an experience with linked practice and research to create an avenue for ongoing, open communication within relevant and responsive timeframes that encouraged its replication in school settings.

5.46.3. Ways that effective projects and content can enable the engagement of multiple interrelationships to be enacted in ways to meet the diverse needs of multiple stakeholders

This study identified the relationship between the RTP factors that impacted upon on the status of projects within a range of schools under differing conditions. Research based projects that presented an increase in student results were sought after. The analyses of the results identified four recommended applications that have been generated within the non-exclusive projects theme to enhance the positive sustenance of research in practice:

1. All participants explained that projects must be conceptualized with an accurate awareness of contextual realities. It was acknowledged that classrooms and school staff members experience different competing demands to university-based staff. Projects that are developed in light of school-based realities and contextual demands are more likely to be responsive to the needs of stakeholders and valued by
educational practitioners. Participants were unable to comment on the demands of the school-based settings independent of comments about leadership support. This strengthened the awareness of the significance of the relationship between support from the school leaders and the limiting of competing demands in attempts to reduce the RTP gap.

2. Projects must have the potential to be scaled within educational settings. The sustainment and scaling of evidence-based projects was a natural progression in all case studies once the project became part of the school policy. For projects to become sustained in practice they should be able to be address the needs of the schools by being scaled successfully so that they can be included in whole school plans (Wilma, 2009). This potential to be scaled can be enhanced when projects address the outcomes related to school system, state and national accountability requirements (Diane, 2009). The inclusive education administration leaders of a large private school system worked with the university to create a teacher education program that deliberately linked their investment to the state and federal visions for inclusive education. These connections were reported as having the capacity to enhance the status of research-based projects and the status of their implementers (Mary, 2009). This increased status and scalability of research-based projects could be further enhanced through recognition and reward at multiple levels (school, system, state or national) thus, enhancing the potential for research to be used in practical applications.

3. Projects with clearly worded directions and details of background research and contact details to address concerns or questions as they arose were more appealing and accessible to educators. All participants agreed that responsive and inexpensive
web downloads and communication opportunities enhanced the accessibility and usability of research based projects (Chris, 2009). An increased opportunity to engage with researchers about projects allowed educators to become more confident users, tutors and advocators for research. All participants agreed with Mary (2009) as she described that when she felt supported by the university and school staff the development of responsive and explicit connections between research and practice continued to evolve. Projects that have access to practical and timely resources, support and assistance were more likely to be implemented, sustained and scaled (Sam, 2009).

4. Research based projects that recognised short-term student gains were most successfully implemented and sustained in practice (Diane, 2009). Accessible literature that supported the practical use of individual projects increased their demand at the school level. Most participants indicated that when the time, resources and effort invested in the project produced strong dividends in terms of student growth, the projects were scaled at a faster rate than expected. All participants described that they sought projects that demonstrated identifiable student gains in comparison to the investment required in terms of their implementation and sustainment. Participants further explained that projects that met this criterion assisted them in evidence based reporting to other teachers and parents, which also contributed to the project’s increased popularity and demand.
Chapter 6. Discussion and Conclusion

This study aims to contribute to increase the extant knowledge of the ways research can be effectively translated to practice to address diverse student needs. It commenced with the investigation of the research to practice literature, which led to the investigation of four additional bodies of literature. The five bodies of literature that were investigated were used as an organisational framework for the study. The areas of literature investigated included: research to practice, professional development, teacher education, comprehensive school reform and concerns based adoption model. RTP factors that were identified through the investigation of these areas were extrapolated and used to guide the direction of the study and construct the data collection tools including the survey and interview questions. These data collection tools continued to evolve as the reports from one phase were used to inform the next; in order to elicit detail and accurate practice based accounts.

This chapter is presented in four sections and is organized around the research questions within the three phases of this study. It first presents a brief overview of the phases. Second, a summary of the key findings in relation to the phased research questions is provided. Third, a RTP Model, which identifies the connections between the RTP factors and its recommended application, is presented. This is followed by the fourth and final section, which presents the limitations of this study, future research recommendations and concluding remarks.

6.1. Overview of the three phases of this study

The first, exploration phase, sought reports of participant’s direct experiences of the factors that contributed to the status of their cases. This data was collected from participants prior to their introduction to the information derived from the literature.
through Part 1 of the survey and the first round of interviews. These details were later compared to the RTP literature. During the second explanation phase, participants were introduced to 75 individual RTP factors (collected through five bodies of literature) through part 2 of a survey. Participants responded to whether these factors were identified in their cases using a numerical (1-5) Likert scale. They also presented written responses to open-ended questions in spaces provided within the survey about other RTP factors that significantly contributed to the status of their projects at various stages of implementation.

The final data collection stage, the expansion phase, consisted of an opportunity for all participants to contribute to a focus group discussion. The results collected during this phase confirmed and expanded upon the complexities, consistencies and differences in the interrelations between the factors that enabled and enhanced the scaling of four cases and contributed to the extinction of two cases. Through this group discussion participants expanded on previous results as they described and compared ways in which similar RTP factors worked together to strengthen the status of four projects whilst that same RTP factors worked against each other to reduce the status of two cases. These interrelationships were presented through four themes including: collaboration and feedback, leadership, scalability of projects and teacher education. These themes were derived from the consistencies identified across the participant responses and the RTP literature. In brief, the importance of the interrelationships between the RTP factors presented through the exploration, explanation and expansion phases of this study influenced the status of the cases in their school settings and resulted in both scaled and extinct outcomes.
The following section provides a summary of the key findings identified through each of the three phases of this study. The research questions within each phase are presented firstly and they are followed by overview of the data generated in response to the phased questions with a discussion of how these results reflect gained through the RTP literature.

6.1.1. Exploration Phase

Research question: What factors have been identified by research participants that contribute to sustaining research-based projects in inclusive educational settings? What factors have been identified in previous literatures that contribute to sustaining research-based projects in inclusive educational settings? How have these factors been identified? What RTP factors were identified through initial teacher interviews?

The discussion of RTP was extensive in the five areas of literature investigated; RTP, professional development, teacher education, comprehensive school reform and the concerns based adoption models (see literature review). There were few empirical studies specifically focused on the translation of RTP in inclusive education settings. Overall, the research articles that were found supported the major themes identified in opinion papers and reflective essays. These major themes included ways to assist researchers and practitioners in reducing the RTP gap including: the responsiveness of research, collaboration and support. The factors identified through these areas became more detailed as the literature investigation proceeded.

Although participants were working in settings that ranged from primary to secondary schools, they all expressed that their projects were stronger if they responded to organisational demands, displayed tolerance for initial implementation
difficulties, recognised accomplishments and encouraged feedback on multiple
levels. These explanations provided practical examples of the claims made in the
literature (Hargreaves, 2007; Hasbrouck, Woldbeck, Ihnot, & Parker, 1999; Miller et
al., 2005).

There were high levels of consistency in the participant responses describing the
positive impact of the Master’s teaching team on their depth of knowledge and their
ability to implement selected projects in their schools. All participants who
completed the same Masters degree shared the sentiment that the merger of
theoretical knowledge with the practical requirements of the course promoted deeper
involvement as all students had to justify, implement and monitor selected research-
based projects and their decisions. These individual accounts provided examples of
how researchers and teachers worked together in an education system sponsored
initiative. All stakeholders felt positive about establishing long-term collaborative
partnerships between schools and universities to facilitate change and enhance
sustainability (Abbott et al., 1999; El-Dinary, Pressley, Coy-Ogan, & Schuder, 1994;
Klingner et al., 1998; Schumm & Vaughn, 1995).

Although initially participants had not been issued with the TE literature during the
exploration phase, their accounts of their experiences were consistent with the TE
literature. All participants explained that attention should be paid to organisational
issues that worked, such as the practicality of their projects in terms of time and
resourcing if they were to be sustained over time (Miller et al., 2005). They also
expressed the need to incorporate empirically derived educational practices into the
instructional repertoire of educators in order to reduce the RTP gap (Foegen et al.,
2001). The responses of the six participants supported the work of Malouf & Schiller
in their beliefs that increased teacher knowledge is important when conceptualising the relationship between research and practice so that classrooms became more responsive to all students.

Participants’ views were also consistent with those of Grimes & Tilly (1996) in that they all expressed that reducing the RTP gap is only possible when educators are well informed and actively involved in the research process. Although challenges such as time management concerns and fatigue in addressing competing demands did exist in each of the six cases, the four cases that were scaled successfully reflected the factors highlighted in the RTP literature. This included the importance of well-designed teacher education programs, which were collaborative, coherent, responsive to stakeholder needs, provided support and feedback to positively support research efforts in practical applications (Darling-Hammond, 2006b; Francis, 2002; Gunstone & Northfield, 1993).

In brief the participants confirmed the RTP factors identified in existing research and went beyond this data to identify the benefits of parental support and self-determination. These included the benefits of maintaining projects to respond to parent’s questions and expectations once they were aware of the projects implementation and strengths. The self-determination of individuals to continue to strive to achieve desire project outcomes was described as having an infectious impact on encouraging other stakeholders to participate. In addition the importance of the interaction between the RTP factors on the sustainment of projects rather than the need for a list of isolated RTP factors began to emerge during this introductory phase.
In summary, the purpose of the exploration phase was to examine the existing RTP literature and question individual participants to identify the factors that contributed to sustaining research-based projects in inclusive education settings. The results derived from this phase identified that knowledge gained from the RTP literature was predominantly generated from commentary reports or intervention research that aligned closely with this initial preliminary round of data collection. The reports from participants about their cases had high levels of consistency and face validity when compared with the extant literature.

Findings from the surveys and interviews also identified that when participants were asked about their projects (without having prior knowledge of the literature); they confirmed the importance of all the RTP factors except for the need for reward or acknowledgement. All participants were more concerned about the projects and the gains of their students rather than their own potential for financial reward or the acknowledgement of their efforts. In addition to these findings all of the participants reported links between RTP factors when describing their individual experiences. Interestingly the same factors were described in sustained, scaled and extinct cases yet the critical difference was the way in which the participants defined the alignment or relationship between the factors. These descriptions were derived from the rich case examples that identified the way the factors worked well together or against each other to strengthen, scale or contribute to the extinction of cases. Those cases that became extinct were characterized by marked change in the interrelationships between the identified RTP factors over the course of the implementation. This highlighted the significance of the relationship between identified factors in projects upon the trajectories of RTP efforts. Broadly, the participants identified a relationship between many elements required for successful
implementation, the way those factors interacted with their schools and respective capacities to move forward and the practicalities of that movement.

The following section provides a summary of the additional results collected through the second phase of this study that further explain how the RTP factors worked together to positively or negatively influence the individual research to practice cases.

6.1.2. Explanation phase

Research question: How did factors identified in the literature contribute to the status of research-based projects in inclusive education settings? Describe any additional RTP factors identified by participants as a result of their direct experiences? In what ways did those factors exert an influence?

The tool development for the second phase of this research used the data collected through the first phase to develop the questions for the second round of individual interviews and Part 2 of the survey. This sequence in the development of data collection tools assisted in generating deeper explanations from the participants and allowed an opportunity for the researcher to clarify, confirm and expand upon previously collected details. Part 2 of the survey was a comprehensive introduction to the literature-based factors and participants were required to rate the presence of those factors within their cases over the first three years of their project implementation. In all six cases the responses made during the semi-structured interviews were consistent with and expanded on the written survey responses and comments made during open-ended interviews. Factors derived from the literature that were not identified by participants during the exploration phase were generally reported to be present during this explanation phase (see results chapter for specific
rating of factors). The more specific responses that were presented by the participants originated from the more specific questions developed as part of the methodology whereby the information gleaned from the exploration phase was used to create more explicit questions.

A major finding of this study was that participants were not able to isolate RTP factors in their explanations of the experiences at their settings. It was at this point that the findings of this study departed from the RTP literature, which tended to identify factors not relationships. Generally, participants identified that RTP factors were unable to address the contextual demands of their setting if they were isolated from other RTP factors. For example when participants were asked about the impact of a RTP factor on their project, all responses made reference to the strong or weakening relationships between multiple RTP factors. The depths of responses gained through this phase went beyond the previous phase to provide explicit examples of the multiple and complex connections between the identified RTP factors that developed and changed over a three-year period. An example of this includes the way all participants made reference to collaboration when responding to questions Each participant alluded to the way in which their shared TE experience modelled effective collaboration and demonstrated the need and impact of a complete framework that weaved practical experiences into a theoretical framework so that they understood and experienced the theoretical and practical requirements of collaborative cultures. Many participants also made reference to the need for ongoing feedback and communication in their explanations of ways in which collaboration was enhanced or deteriorated at their settings.
Leadership support was another example of a factor that was not able to be isolated from other sources of influence. It was raised by participants in conjunction with other factors including the allocation of the required time, resources and increased project status within schools. The removal of leadership support was linked to the gradual breakdown in the allocation of as time, shared responsibility and communication opportunities. This lack of support and connection between factors was further linked to a reduction in project status as demands placed on staff members increased.

These results indicate that implementing a research-based project is a process and not a single event as successful implementation is dependent on the interconnection of a combination of RTP factors. This interaction of factors was identified as being more critical than a list of isolated factors to enhancing the sustainment of research-based projects in practical applications. There was consensus amongst participants that without these interconnections between factors, the success of research based project sustainment would be compromised and the RTP gap became extended rather than narrowed.

The importance of RTP factors working together to reduce the RTP gap was evident in the cases that became scaled and those that became extinct. The importance of the connection or relationship between RTP factors on the sustainment of research-based projects in practice was further reinforced as participant responses became more detailed. The practical application of the projects became less effective as the connection between RTP factors became less apparent. During this phase the impact of the changing relationship among the RTP factors and the status of the projects became increasingly evident. The two cases that became extinct
demonstrated the impact of these weakening relationships between factors on the reduction in strength and status of two different RTP examples. When reporting on the implementation and first year of the sustainment of the projects, all participants described the positive impact that resulted from RTP factors working together in a reinforcing way to enhance the status of their projects. All participants still found it difficult to isolate RTP factors when describing the practical application of their projects. For example Sam’s comments about the support of the leadership at her setting were linked with opportunities for timely feedback, with a common language, which was woven into the design of the project. The importance of the connections between RTP factors became more pronounced as participant responses became more specific. Diane added to these links by stating that these features need to be enhanced by regular meetings and the projects inclusion in the whole school plan by being incorporated into the school timetable.

As the status of the two projects that became extinct began to diminish, Meg and I described a definite change in direction from a positive cycle to a negative cycle. Instead of factors working together to create a harmonious and reinforcing progression, their connections became fractured and disconnected and they worked against each other to create a negative cycle that reduced the strength and gains originally identified within these cases. For example the change in leadership brought a different agenda in my case, which diminished the focus on the project at meetings and in school life. This led to a reduction in time allocation, resources, emphasis or priority for project requirements due to the introduction of competing agendas. In Meg’s case the leadership dynamic was still evident in a very different relationship. For example the strong support of her leadership led to the decision to scale the project across her setting, this decision was made at the executive level
without consultation with other stakeholders. This lack of communication contributed to a lack of shared ownership and accountability, which increased the workload of individual stakeholders.

Overall the purpose of the explanation phase was to provide a deeper explanation of the way in which RTP factors contributed to the status of the individual cases. The results derived from this phase identified that the depths of the descriptions were strengthened through the use of previous responses to inform the subsequent data collection tools. Responses collected through this explanation phase expanded on those responses collected during the previous exploration phase to describe the necessity of a broad cycle of connections between the RTP factors that are responsive to the needs of each case.

Positive cycles were described in the four scaled cases where the connections between the RTP factors became reinforcing. The opposite occurred in the remaining cases that became extinct. These two previously strong cases began to deteriorate when factors became misaligned and disconnected. Prior to these cases becoming extinct, the projects were implemented and maintained successfully and the connections between the RTP factors were moving in a reinforcing manner. When the connections between the RTP factors began to break down, the positive impact of multiple RTP factors working together began to deteriorate. The previously reinforcing connections or relationship between identified RTP factors had contributed to a smooth flowing cycle. As the connections between the factors reduced so did the reinforcing cycle. Generally these factors fell from the broad yet key areas being the people within their settings, the content of the projects and their capacity to address the needs of the stakeholders. When these factors did not
maintain links between the key areas, the supportive cycle deteriorated. The previously identified gains of the projects began to diminish and the project gradually lost traction and sustainment in the real classroom applications and eventually became extinct.

Wilma, Sue, Mary and Diane's cases demonstrated how the connections between and across factors continued to positively impact the status of their projects. A significant connection that resonated across all cases was the importance of well-aligned and maintained relationships between school leaders and staff that worked toward mutually aligned goals. In each of these four cases all stakeholders worked collaboratively to address student needs, which remained central to their project decisions. All four projects became part of their individual whole school plans and were successfully scaled within and beyond their settings. The participants who coordinated the two cases that became extinct confirmed the importance of these factors working together through their accounts of the difficulties experienced in maintaining their projects when connections between these RTP factors began to deteriorate.

All cases continued to echo the findings of the previous phase and emphasized the requirement and type of RTP factors essential to ensure research projects are successfully implemented in classroom applications. During this phase participants went further to describe three common core areas and the connections essential to research projects becoming routine practice in school settings. These included the people involved, their preparation and the reliability, scalability and accessibility of the research-based projects being implemented. There were differences however between the literature and the data collected as a result of the practical application of
the six cases. These differences stemmed from the importance of the connection between RTP factors and the core areas. No participant was able to isolate the three core areas in their descriptions of the practical experiences at their schools. This phase of the study identified that for research-based projects to be successfully implemented, sustained and scaled in school applications RTP factors cannot exist independently of each other. They must work together in a reinforcing way. There was a strong consistency in reports from participants that when the three basic core areas were successfully united in real contexts, the capacity of stakeholders to deliver and access usable and relevant content was strengthened.

The analysis of the data from participants through the explanation phase established that when RTP factors work together rather than individually there is a greater likelihood that the well articulated RTP gap would be reduced. Conversely, those factors can also work together to increase that gap. In addition the significant finding of this explanation phase was that the participants’ reports of the actual RTP factors remained constant, it was the relationship that varied according to the needs of the individual settings and the status of the projects. No participant was able to report on individual factors in isolation and it was the way that the factors worked together that had a direct impact on the impact and outcome of the research based projects within case. This raised awareness and concerns about the density and complexity of information required if educators and researchers are going to be successful in reducing the RTP gap to address the needs of all students.

The following section provides a discussion that identifies key themes, links them to the literature and draws conclusions of the results collected through the third and
final phase of this study in which all participants joined in a focus group discussion to elaborate and compare the RTP factors that contributed to the status of their cases.

### 6.1.3. Expansion phase

Research question: What factors and relationships, between them contributed to the status of research-based projects in inclusive education settings?

During this final phase of the project, all six participants shared in a joint discussion about their individual projects and research to practice experiences. Participants were able to share details about their project implementation and compare various aspects across cases. Initial comments through this focus group echoed the importance of the factors identified by participants in the exploration phase and the need for strong relationship between these factors and how they were established as identified in explanation phase. During the expansion phase discussions ranged from the shared teacher education course being a *lived experience* to the need for flexible feedback that addressed the changing needs of the staff and students within a complete school wide approach. The collective dialogue made it possible to hold deeper discussions across the total sample of participants to confirm and expand upon themes and the responsive relationship between them. Consistencies and the single area where opinions were divided were presented.

The voluntary comparing and contrasting of many project details elicited the deepest knowledge of the projects strengths and the way their projects were implemented, sustained, scaled or became extinct. *During the extensive discussion participants described the impact of the connection and interrelationship between and amongst consistent RTP factors as being fundamentally important. They shared and compared details about how the same RTP factors worked harmoniously or against each other.*
to impact the status of their projects within their unique school settings. The importance of the relationship between RTP factors in linking key components of RTP efforts continued to be illuminated in multiple examples as participants could not provide accurate accounts of their practical experiences if factors were presented mutually exclusively of one another.

The following examples provide specific demonstrations of the importance of the way that the RTP factors work together to create a harmonious balance in which the demands of research being applied in practice are distributed amongst all parts of the whole school structure. Insights into the way the RTP factors worked together to share the load to not overburden or weight any area within a whole school system demonstrated complex connections between factors. These examples reveal how the same RTP factors (that were identified in both the RTP literature and six practical case examples) are referred to in interconnecting ways to create reinforcing cycles that utilised research-based projects to address student needs in individual settings. Knowledge of these complex connections became authenticated as case example comparisons demonstrated how the same RTP factors materialised and functioned differently across settings.

The first two examples identify how factors were positively united in a reinforcing cycle to address the needs of the students at different settings. The second two examples identify how the connections between the same factors became compromised and the success of the practical implementation of the projects deteriorated.

Sam, Diane, Meg and I added to the description of the practical impact of the connections between the support of the leadership, shared accountability and
communication on the sustainment of our projects. Sam reinforced that the ongoing support from her school leaders led to assigned staff meeting time and other frequent communication opportunities which enabled her staff to effectively respond to teacher concerns soon after they arose. She extended her description to specify she was given release time to work with staff in their classrooms and this encouraged often informal discussions. With opportunities for increased communication the need for explicit language that was understood by all became increasingly evident. The need for communication in which all parties had a shared understanding of terminology was expanded to ensure consistency in the use of explicit language with parents and outside agencies. Sam described how these factors collectively worked together to add support and interest in her project as other stakeholders wanted to become involved.

Diane elaborated on the way consistent leadership support, encouraged the timetabling of regular meetings with support staff and across the whole school. She continued to reinforce that the project was prioritised by the school leaders and staff as it was published in the school calendar. During the focus group Diane explained that the inclusion of her project at this level prioritised it in the secondary setting and this encouraged communication with staff across different faculties. Staff not directly involved in the project began asking for feedback about project content and student gains, which led to shared interest and increased potential for collaboration. As consistent feedback was sought increased opportunities for communication were also woven into grade meetings. These examples expanded on the data collected in the first two phases to extend the comparison of how the same RTP factors were united in different ways to create reinforcing cycles that made them responsive to their unique settings.
Both cases that became extinct also added clarity to the insights gained through the previous phases through their confirmation of the importance of the reinforcing relationship between RTP factors by highlighting the result of the deterioration of such connections. The following examples demonstrate the importance of this cycle of reinforcing relationships through a diverse perspective being the results the gradual breakdown in the balanced connections between RTP factors that link the key areas. The extended discussion in the focus group encouraged the sharing of specific details about the deteriorating connections between the same RTP factors that were described by Sam and Diane. Meg and I attributed the lack of connection between the same factors as having an adverse impact on the scaling of our cases in previous phases. During the expansion phase it became increasingly evident how the same factors being leadership support, shared ownership and communication worked together or against each other in diverse RTP cases. The previously strong relationships that were evident in my case began to deteriorate with the reduction in leadership support. The reduction in leadership support diminished meeting time allocation and funds for PD efforts were reduced. Informal staff room communication about the project became compromised and scarce given the new division of interest and ownership of the project. As the status and priority of the project aims fell on the agenda of the new leadership team a gradual break down in the connection between the previously mentioned factors slowly contributed to the extinction of my project, as key elements were no longer aligned and working together harmoniously. The same factors were also identified in Meg’s case yet the relationship between them was once again unique in order to respond to the needs of her setting. In Meg’s case the support of her leadership team was strong and active yet the decisions to expand the project without consulting other staff members led to
feelings over being overwhelmed. Stakeholder became concerned that they were not consulted prior to the decision to scaling the project and as a result their ownership, support and interest in the project reduced. Although project meetings were still held, the contributions of some stakeholders reduced and a subtle divide in staff resulted as communication between interested and non interested stakeholders diminished. Again the breakdown in the connection between the identified factors led to the winding down and gradual extinction of Meg’s project. Through the two cases that became extinct it became evident that as the way leadership exerts an influence on time allocation, funding and decisions to scale can have a significant impact on the capacity of RTP projects in practical contexts.

The data collected through the expansion phase, such as the description of accounts related to leadership support and related factors, went beyond that of previous phases to present specific cross case comparisons of RTP cycles. As well as the specific examples of positive reinforcing cycles, negative cycles between the same factors, which led to the extinction of two cases further, highlighted the importance of the RTP connections.

All participants agreed that combinations of factors that work well to reinforce each other are required for the effective use of research to address divers student needs. The examples described referred to the relationship between the same factors being leadership support, shared accountability and communication. These examples of cases that were reinforced and scaled and those that wound down and became extinct demonstrated how the connection and relationship between the same RTP factors were prioritised over isolated RTP factors in all cases. Key considerations that have been presented include the complex and reinforcing interaction amongst the 16
factors and the way they support the core elements within a school setting to engage the ongoing and beneficial use of research-based projects in practical applications.

Participants consistently supported reports and descriptions linking the people involved in the projects, their capacity, the contexts that united schools and universities in preparing teachers and the projects and their content. Throughout the discussion in this phase participants shared and compared the way in which RTP factors united in reinforcing or damaging ways to create cycles, which positively or negatively impacted on the sustainment, scaling or extinction of their cases. As these descriptions and comparisons continued to evolve, a pattern emerged in which participants consistently acknowledged the need for common elements. These included the research-based projects, effective practice, leadership support, teacher education and a complete and comprehensive approach. This expansion phase built on the knowledge generated from previous phases and RTP literature as it identified that factors within each of these common elements must be united if research based projects are to be sustained in practical applications.

The examples of both extinct and scaled cases compared by participants confirmed the need for strong relationships between the RTP factors that address contextual realities. Participants continually identified that reinforcing relationships were a key requirement to reducing the research to practice gap through cases that were wound down and scaled up. The focus group discussion highlighted that all six participants consistently identified reinforcing connections between RTP factors are critical if the RTP gap is to be reduced. It also went beyond this to identify that the way they connected was also of importance to ensure that they best fit the contextual realities of their implementation settings.
Another major finding echoed in this phase was the importance of engaging teacher education experiences. All participants confirmed the need for the people who are able to promote productive relationships that encourage the use of effective research-based projects to address a wide range of student needs. All participants consistently repeated the connections between three vital areas being people, projects and their preparation. Preparation referred to the teacher education program that was seen as the key driver, which influenced many of the other RTP factors. These areas represented the elements that when connected and supported through responsive relationships between RTP factors may assist in giving traction to the sustained use of research based projects in schools.

The only discontinuity or difference expressed amongst participants during this phase was the need for state-wide assessments within schools. During this only opportunity for group discussion Diane was the only participant who was in favour of the NAPLAN assessment whilst all other primary school participants were against them.

In summary, the final phase of the study provided an opportunity for all participants to describe, compare and respond to questions seeking additional clarity and justification from other participants about their cases. Over the three phases of the study the six cases were described with increasing depth. Through the open discussion of this phase participants revisited, paralleled and confirmed the relationships they identified between RTP factors. This phase echoed previous findings of both the RTP literature and direct experiences and went further to identified how unique connections between the same RTP factors developed or deteriorated across multiple settings to scale up or wind down RTP initiatives. The
interwoven connections between the stakeholders involved in research to practice initiatives, their preparation and the project’s reliability, accessibility and scalability were described as critical to reducing the RTP gap. The consistent reports from participants describing cases across a range of settings provided additional knowledge to extend our capacity to successfully implement and sustain research-based programs in varying classroom applications to address a range of student needs. Knowledge of how the connections between similar RTP factors became reinforcing or destructive went beyond the current literature to provide direct examples of ways in which the well articulated RTP gap might be addressed. The importance of the reinforcing relationships between RTP factors was confirmed, as projects were not able to remain sustained when the connections between them were isolated or independent of one another as supportive and strengthening relationships did not continue to develop.

6.1.4. Summative overview of the data collected through the three phases of this study

In review this research explored the RTP literature to gain information about ways to bridge the research to practice gap. These results were compared to participants’ accounts of what factors impacted on the sustainment of their projects, prior to the RTP literature being introduced to them. The results of this exploration phase were particularly compelling as there were strong similarities between the participants’ accounts of their direct practical experiences and the RTP literature, given the literature bases RTP factors had not yet been introduced to participants. Although this data was very beneficial in that it confirmed many RTP assertions through direct experiences, one of the major findings was the inability of the participants to separate RTP factors. The RTP literature tended to produce lists of factors as was
identified in the work of Carnine (1997a) and Sydoriak & Fields (1997) who summarized these factors in their six principles (See literature review). Whilst in this study participants built on this previous knowledge to validate these claims and envisioned a milieu in real contexts where many factors interacted. Additional to this finding, this phase also elicited the question “If the RTP literature and direct experiences are identifying the same factors, why is the RTP gap still a concern?”

In striving to answer the overarching research question about the factors that contribute to the RTP gap, the answer to the additional question continued to emerge through the explanation phase of this research. It was expanded upon and confirmed in the comparison of multiple cases in the expansion phase. Initially the results of this research validated the literature based RTP factors through the identification, explanation and confirmation of their existence in six diverse case studies. However on further analysis of the results the additional significant finding was the way in which the same RTP factors worked together or against each other to impact the status of research-based projects in practical applications.

As the methodology elicited more detailed accounts and richer descriptions the RTP factors continued to remain constant. They were the same factors identified through a range of settings and project trajectories yet the way they were linked varied significantly according to the needs of the unique school settings. One factor influenced another factor to create interactive relationships between them. This interactive relationship between RTP factors was reported to be cyclic in both extinct and scaled cases. During the explanation phase, participants were unable to report on RTP factors in isolation to explain the events or details they experienced and witnessed through the implementation and sustainment of their projects. These
accounts were compared across cases during the expansion phase to confirm the complex cyclic links between the same RTP factors that contributed to the sustainment or extinct of research-based projects. The six well-defined relationships between RTP factors consistently linked the projects, stakeholders and their teacher education preparation. The form and specific descriptions of the relationships did vary from case to case yet there was consistency in the RTP factors and the need for a balanced alignment within a cyclic connection that supported the same core elements. Essentially the key elements and the RTP factors remained consistent yet the cyclic and multi-levelled interaction between the elements and the factors that gave them capacity in their practical application did vary according to the needs of the setting. It became increasingly evident that stronger or more reinforcing the relationships between RTP factors the more likely the projects were to scale up within and across settings. Conversely the reduction in strength or links between RTP factors gradually contributed to the scaling down and eventual extinction of research to practice cases as the previously identified RTP factors became disconnected. Given the need to provide a usable, accessible and practical form to the complexity and interactive nature of the relationship data collected through this research, a RTP Model has been conceptualised as the most efficient way of communicating my findings.

The following section builds on the existing literature and data collected from the three phases of this study to respond to the overarching research question; what are the factors and the relationships between them that contribute to research becoming routine practice in classroom applications? Given the diversity of the response to this question a RTP Model was developed to visually articulate the complexity involved in raising an awareness of the ways that RTP factors align to build capacity.
in the use of research based project content to respond to the contextual needs of school settings. A RTP model was selected as the simplest form to build a deeper understanding and extend the literature to provide future users with a scaffold of validated variables and their alignment for the purpose of implementing and sustaining research based projects to enhance students learning. The RTP model was built from the range of accounts, knowledge and experiences gained from previous researchers and research participants collected through the three phases of this study. It visually presents the fundamental requirements and the cyclic relationship between them that was identified as valuable to sustaining evidence-based projects in multiple school-based applications.

6.2. Introduction of the RTP Model

The following RTP Model represents the findings of the extant literature and results of the study. It expresses the importance of the connections that drive RTP so that it can be beneficial to the development of the relationships that assist in the application and sustainment of research-based project in school settings. This RTP Model is presented in a hub and spoke configuration bound by the elements presented in the outer circle, which, like a tyre represents the interface between a wheel and the ground, constituting the practical application of research based projects in school settings. The hub and spoke metaphor has been selected as the RTP Model is like a wheel in which the whole can function in a manner that is greater than the sum of the parts. The spokes (like RTP factors) can be configured in different ways, but if one spoke fails and collapses additional pressure will be added to the other spokes. If additional spokes fail, additional pressure falls on those that remain and the wheel or cycle is no longer able to travel smoothly. In brief the hub and spoke model is
reflective of a wheel, which is a closed system that it is constantly interacting with the environment to move forward in addressing the closed system context.

Hi Chris: Re the model- label the influences outside the model and have the arrows direct towards it so that they do not seem to simply orbit it. Consider making the interior circles porous-broken lines or another strategy to show that the input from the spokes can get to the hub.
Figure 7.1
RTP model
6.2.1. Description of the RTP model and the complex and cyclic interconnection between the identified components

This hub and spoke metaphor was conceptualised to illustrate not only the essential components of RTP endeavours but also the most significant finding being the way they interact and align to make RTP efforts responsive to the needs of the stakeholders at individual settings. The model is comprised of three main sections. These include the outer circle that is comprised of the four verbs representing the actions required to give practical application to the model. The four verbs were selected as they characterise the key features of implementation efforts. For example, RTP approaches need to be engaging through the enactment of harmonious and balanced relationships between RTP factors so that they are able to move through an effective cycle, which addresses the practical requirements of varied implementation settings. For RTP efforts to gain this effective traction in a school, they need to engage multiple stakeholders to increase their capacity, skills and knowledge in enabling students to benefit from research based knowledge by enacting with integrity in areas including long term support, well aligned system and policy goals and shared ownership and responsibility.

The inner circle includes a Venn diagram at the centre, which represents the dynamic interaction and intersection of the broader yet vital components being the content of the project, the capacity of stakeholders and the unique contextual variables of school setting. These elements were originally derived from the theoretical base that was retrieved from the RTP literature and then analysed to identify consistencies. The paramount need for their reactive interaction was confirmed through the trajectories of six direct RTP cases. The analysis of the results collected through this study validated the components within the inner and outer circle as areas that should
be considered when designing realistic and effective RTP projects. However the spokes that connect the inner and outer circles represent the key areas or factors that constitute the scope and diversity of things to be considered in RTP efforts.

The spokes which symbolise the more specific 16 RTP factors were consistent within both scaled and extinct cases and existed in differing alignments, not as isolated factors.

The hub and spokes gave structure to the model in the cases that were examined yet it was the well maintained connections or interrelationships between the RTP factors that had the capacity to work together to enhance ongoing, effective and engaging environments. This was evident in the four cases that were successfully implemented then became scaled within and beyond their school settings. The break down in alignment and engagement of parts had a negative impact on the sustainment of research-based projects within two schools. This was evident in gradual break down in Meg’s case as her project became scaled without shared ownership. This contributed to additional pressure placed on the other spokes/factors including shared ownership and responsibility, which gradually resulted in the extinction of her project. It was also identified throughout my case as the withdrawal of leadership support led to additional strain within and across other identified RTP factors including limiting competing demands and projects being viewed as credible and valued. As the spokes or RTP factors, relationships and alignment reduced in strength, they increasingly became disengaged and the smooth flow of the cycle experienced resistance and connections became strained prior to becoming extinct.
The following section provides examples of how the RTP Model applied to the six cases and could serve to provide a guiding framework to enhance the future use of research-based projects to address student needs across diverse educational settings.

6.3. **Examples of the application of the RTP Model**

Examples of the positive application of this RTP Model were exhibited through Mary, Wilma, Sam and Diane’s cases. Each participant identified strong connections between multiple RTP factors in the ways that they worked together to respond to their contextual realities. They explained that their projects had the capacity to be scaled to address their whole school contexts as elements of the Model worked together to reduce the impact on individual factors. This complete cyclic approach resulted in the implementation, sustainment and scaling of six direct RTP cases as it proved to be practical, realistic and accessible when core elements including the people involved and their capacity, the context and content of the projects themselves were effectively enabling the engagement of RBP to enact and respond to student needs.

An example of the application of the RTP Model in Mary’s case can be identified through the way the spoke strength which included her account of the “lived teacher education experience”, web support and timely detailed feedback supported the hub elements being the context demands, her capacity and that of other stakeholders and the sharing of meaningful and useful project content. As the strength in the relationship between these spokes increased, the elements of the hub gained strength as did the status of the project. As the cycle gained momentum teacher involvement also increased. This positive cycle enabled the practical engagement of research-
based projects to effectively address the needs of the student and contribute to a positive school culture.

Wilma’s case also demonstrated a positive and reinforcing connection between the RTP factors that gave capacity to the central aim of her project, which was to effectively use validated research to address student needs. This aim was given traction through the strength of the relationship between the consistent evaluation and feedback opportunities, well-developed student and teacher materials and support spokes. These connections between the spokes gave strength to the supporting structure, which assisted in ensuring that the project content was responsive to the growth in stakeholder capacity, knowledge and ability in her school context. Wilma’s case displayed that the interrelationships between the spokes contributed to the maintenance of effective and engaging environments, which enabled the practical use of research-based projects to address the diverse needs of the students at her setting.

The structure identified in the previous examples yielded a complete research to practice strategy. The effectiveness of this complete cyclic strategy was further highlighted through the accounts of the deterioration between the elements that were exhibited in the cases that became extinct. These cases demonstrated that a reduction in the interaction between the support factors or spokes reflected reduced harmonious links between the context, capacity and content required for research to practice efforts to be sustained. This slow and gradual break down between the connections between the spokes in Meg’s case began with the lack of shared ownership and responsibility, which created a heavy workload for Meg. The decision to rapidly expand the project by the executive
further contributed to a lack of alignment as it increased her workload and further contributed to the reduction in shared ownership and responsibility. Gradually the lack of connection between and amongst the RTP factors or spokes contributed to the disengagement of stakeholders and their support for the project. This lead to additional strain across other spokes reducing support structures for the harmonious connection of the elements within the hub of the model. In turn the capacity of stakeholders to use the research-based project content to address the needs of the students in the school context was not maximised. With the lack of supportive connections between the RTP factors spoke structure and the lack of balance in elements identified in the hub of the RTP Model, the effective engagement of research-based projects did not remain sustained and eventuated in the extinction of the project.

As a result of completing this study it was apparent that the strong connections between components of the model became reinforcing. The strong reinforcing relationships between the RTP factors assisted stakeholders in their sustained use of research-based projects to address student needs. The RTP factors or spokes remained consistent, and each of them aligned differently to support the hub by giving structure, strength and coherence to RTP efforts. When all the spokes were aligned and well balanced, strong relationships between project content, stakeholder capacity and educational contexts was supported which enabled the effective practical use of research based practice. The uniqueness and practicality of this model is its capacity to be adapted in ways that are responsive to individual educational settings if implemented. It is not prescriptive in the type of relationships between the factors that are required across all applications, yet the RTP Model purports that differing alignments between the consistent factors will need to exist so
that the relationships and interactions in the hub of the model can ensure it remains responsive to the needs of individual settings.

To summarize, the development of the RTP model emerged from the data collected in response to the research questions as expressed across the three phases of this study. It is presented around a hub and spoke metaphor, as all components are required to exist in a cyclic relationship for a smooth ongoing progression to exist.

The model constitutes a visual example to demonstrate that a wheel can still turn when its spokes become weak, however additional pressure is placed upon the other spokes and the forward motion may encounter some resistance. This metaphor was created to succinctly summarize and define the themes in the relationships described through the three phases of this research. The volume and complexity of the data collected to assist readers in comprehending the importance of the themes and their connections when addressing the differing variables within individual school settings is at the core of the hub and spoke metaphor. It is vital to note that the Hub and spoke model is not a closed system, as just like wheels connect to the road, RTP projects must interact with the students and stakeholders within school systems in order to remain responsive and continue to move in a forward motion. This model encourages feedback that informs the dynamic interaction between content, context and capacity as represented by the hub. For this continued dynamic interaction to exist, opportunities for feedback are encouraged so that any changes can be made to ensure continued successful and responsive applications.

6.4. Future utility of the RTP Model

This RTP model could be used as a planning heuristic for an RTP effort by designers, educators, researchers and policies writers and implementation
organisations that aim to promote the use of research-based projects to address student needs. It is a metaphor that can provide a cognitive map for the features that need to be addressed in RTP efforts. The RTP Model may be used as a guide that can be implemented to develop an operational strategic and tactical approach that can be employed to design future RTP initiatives on a small or large scale within schools or education systems. Its application is not restrictive and can be varied as it has the scope to be responsive to the needs of students from diverse educational settings. This can be achieved through the sensitive alignment of the spokes or RTP factor content, which links the interaction between the core elements (hub) and the practical application (outer circle) of the model.

At an obvious and distal level the Model does the following: It highlights in advance of the application of an innovation, the need for a complete inclusive approach to narrowing the RTP gap. If research is to become routine practice in our classrooms and schools, a complete and comprehensive approach that considers all the different parts of the Model should be beneficial. It recognises and addresses that different educational environments are comprised of a wide range of contextual variables and as a result will require different alignments and relationships to best address the changing features of individual settings. The model also proposes that teacher education is essential to adding clarity and unifying the RTP factors.

The model can be applied at different levels of an education system as it can be used to map the territory for an RTP effort as it creates a schema for the scope of the work required and the interactions from multiple perspectives. A school leadership team interested in research-based innovations could use this RTP Model to raise awareness of the extent of the effort that is required to build interconnections to address diverse fundamentals if research-based projects are to be successfully sustained. School principals and system
leaders can build capacity by using the RTP Model to frame an assessment of needs and an audit of the current circumstances, variables and dimensions of the school or system. It can be used to frame the process and inclusions in that process (the spokes) and to initiate the planning at the interface of the entities involved. It can also be used to frame the design of an evaluation of an RTP effort at school or system level.

Researchers designing research that sought to scale up the use of applied interventions could use the RTP Model to guide the scope of their data collection tools to ensure that their research addressed the diverse features and relationships within the model. This could encourage increased mutual respect between researchers and school based teachers through opportunities for ongoing and substantive feedback enabling collaborative efforts to address educational frameworks encouraging the use of research based projects to respond to the needs of all children.

Education systems and policy designers seeking to build policy for the use, development and enhancement of RTP could also use the RTP Model to comprehend the scope of work to assist with budgets, professional development and sponsored teacher education initiatives. Increased knowledge of the complete schema should guide realistic expectations at all levels. This may assist in guiding awareness of the attributes requiring long-term support within the complete RTP framework.

These are examples that demonstrate how the RTP model can be used as a metaphor that firstly identifies all components essential to giving RTP efforts traction, and more importantly recognises the significance of the relationships that makes the whole model greater than the sum of the parts. If applied it may be employed as a
framework, which unites efforts of both educators and researchers as it has been informed by knowledge gained from both perspectives as they strive to achieve the same outcome of sustaining the implementation of research, based projects in classroom applications.

In summary, this continued propensity for all participants to see and make the connections across RTP factors was the major finding that amplified the need for a RTP model if the RTP gap is to be reduced. The RTP Model was developed to provide a metaphor that can be employed, with flexibility in the relationships between the spokes, to ensure that all key RTP requirements are acknowledged and adopted. With increased knowledge of the importance of the interconnections required for the successful implementation and sustainment of research-based projects, stakeholders may better align and attend to the contextual elements of their unique school settings. If students and staff are to benefit from validated and effective research-based projects, a strong association between the people involved and their preparation is required. These elements presented in the hub of the RTP Model are given capacity through the varying relationships between the spokes or RTP factors (as presented in the previous examples) which link the inner and outer circles of the model so that the application of research projects is effective and engaging enabling all students to reach their potential.

The knowledge and application of the RTP Model may provide a tangible way to address the gap between research and desired practice. The complexity of the model reflects the complexity of the interrelationships required to enhance the sustainment of research-based projects in classrooms. The gap between research and practice can only be reduced through the development of cyclic and reinforcing relationships
which give capacity to the broader RTP factors, (identified in the outer circle of the model) so that the inner specifics (core of the model), being the sustainment of research based projects in our classrooms, can become a reality.

6.4.1. Summary

All settings were unique and presented varied contextual circumstances. As a result RTP endeavours cannot have a “one approach fits all” philosophy. This study built on and validated the work of previous researchers and raised awareness of the complexities of the relationships involved in bringing research based projects to scale in educational settings. The importance of the connections between RTP factors rather than the factors themselves or the number of factors was prioritised throughout this study. Factors will operate differently in varied educational settings. A priority of this research is to use the model to express the scope and dynamic interaction required if the RTP gap is to be reduced.

The development of the RTP Model was reflective of theoretical and practical agendas as it stemmed from the knowledge gained from position papers and intervention research that presented the individual factors that were asserted as being critical to reducing the RTP gap. Many of these factors (see Table 2.1) were identified in complex relationships and were verified as having an enabling or inhibiting impact on the status of the six direct RTP cases examined. The interrelationships within and across the RTP factors that unfolded through the phases of the projects were identified as more significant than individual RTP factors.

Additional to the importance of the connection between the RTP factors, knowledge of way these connections contributed to establishing reinforcing or destructive cycles became apparent. Strong and reinforcing cycles enabling and enhancing the use of
research-based projects became a natural progression when student gains and increased project status were evident. Conversely, strong embedded projects fell into a destructive cycle when the spokes and their status and support for the projects reduced. When the strength between the connections of RTP factors continued to gain momentum and a natural reinforcing cyclic progression resulted. Alternately a downward or negative cycle was identified as the reduction in the strength between the connection of the factors contributed to their destruction and eventual extinction.

In brief, the components presented in the RTP Model can be configured in different ways yet are all-important to the smooth forward cyclic motion that is required to addresses the unique contextual realities of education systems, classrooms and schools. The hub and spoke model represents a RTP strategy that considers the essential RTP elements and they way in which they unite to work together to provide designers, educators and researchers with a Segway or roadmap to promote inclusion through the use of research-based projects to address the educational needs of all students.

In conclusion the hub and spoke RTP Model builds on the RTP knowledge previously generated by researchers as it provides a complete framework which can assist educators and leaders in their efforts to address current endeavours to promote inclusion through the use of research based projects. This RTP Model promotes the connections between the spokes or RTP factors to drive the effective engagement of sustained research based projects, which require the united approach of validated projects, people and their preparation to build capacity in practical contexts. The Model can be applied across a range of diverse settings as the relationship between the RTP factors can vary according to the needs of each setting.
If employed the RTP model may have the capacity to contribute to educational research becoming a reality in schools and classrooms if articulated in the design stages of RTP efforts. This knowledge base can be employed to underpin efforts to make classrooms more inclusive through its complete and comprehensive approach and pre-articulation of the scope of work required. It could promote the alignment of all levels of stakeholders within a school system through the need to echo and support whole school RTP endeavours. If strong connections between the RTP factors which link the inner and outer circles of the Model are not maintained, a smooth journey may be less likely. Ideally the application of this RTP model could potentially have the capacity to positively impact the translation of RTP and reduce the RTP gap.

6.5. Limitations of the study and recommendations for future research

The use of a theoretical framework of knowledge that was informed by five bodies of literature combined with the introduction of a method that employed various types of case studies to guide this design was ambitious given the time and energy required. The risk of implementing a new and unused framework was reduced through the lessons learnt from previous researchers that contributed to providing a scaffold to increase focus to add essential rigor of the design, which sought to benefit from multiple perspectives given the intended diversity and scope of RTP initiatives. Additional research which examined the direct implementation of the RTP Model in both primary and secondary settings as well as its application in RTP efforts at system and policy making divisions would be recommended.

Although a 1-5 rating scale was presented with clear definitions of the numerical criteria for the completion of the surveys data, participants may attribute scores
differently. Data was also collected in retrospect participants had to reflect on their early project details so it was possible that errors could be made given the time that had lapsed. The use of the final Master’s projects (permanent product records, which were completed as the projects were being planned and implemented), were used to confirm data collected through the surveys and interviews. This limitation was considered, yet causal comparative case study was selected as it allowed for factors to be retrospectively traced over time (Stoecker, 1991, as cited in Yin, 1994) and this assisted in resource assisted in validating the accuracy of details collected after the implementation of the projects.

Although multiple case study may be considered a strength, the fact that all six participants were from the same education system may be considered a limitation as it limits generalizability. Future recommendations would be to conduct additional research in this area employing participants from diverse educational sectors.

Location threat as defined by Freankel and Wallen (2006) in experimental studies, refers to the concerns of data collection location and details differing in each case. These concerns were reduced as data was collected under the same conditions by the same data collector (see Methods chapter).

Projects were predominantly focused on reading instruction and assessment as this was an initiative of the school system. This may be considered a limitation as RTP may manifest differently with different foci. Additional research across school systems with a wider range of projects would be beneficial. Yet reading is a common source of RTP intervention making it representative of efforts in the area. Additional research with other research based interventions other than literacy would be beneficial.
A further limitation of the study may be differences in readiness levels of each school setting as some schools may have had a more collaborative and inclusive culture than others making and this was not formally measured. Participants did report that their settings were ready for the implementation of their projects and they each described the collaborative cultures, yet this was not determined using a consistent approach. Future research, which collected insights and experiences from the university staff that designed the Masters Course and the school system office; based staff that control systemic budgets and staffing decisions would also have been beneficial. This could have increased the strength of this study as it would have investigated a broader range of case applications. Additional research using the same methodological approach to gain insights from the experiences of systems and course coordinator perspectives would be beneficial.

6.6. Conclusion

The purpose of this study was to contribute to narrowing the well documented RTP gap by promoting the use of research to address the needs of a diverse range of students within school settings (Abbott, Walton, Tapia, & Greenwood, 1999; Carnine, 1997a; Gersten & Vaughn, 1997; Malouf & Schiller, 1995; Richardson, 1996; Stanovich & Stanovich, 1997). Through developing a deeper understanding of the way in which research-based projects could be implemented and sustained to enhance student gain could support a multilayered rather than linear approach to RTP (DETYA, 2000).

It was hoped that the knowledge gained through this study could be applied to assist teachers, principals, system leaders and policy makers in successfully responding to diverse needs of students through the sustained implementation of research-based
projects. As a result of this investigation seven major findings can be drawn. These findings include:

1. The validation of RTP factors that were identified through five bodies of literature

2. The importance of teacher education on raising awareness and skill in relation to all components of the RTP Model and conversely raising the awareness of these significant considerations required when planning and designing future teacher education programs

3. The raised comprehension of the complex and diverse interconnections and interactions essential to bridging the RTP gap through the merger of content and process through a theoretical framework that was developed from both researcher and school based practitioner knowledge and experience

4. The importance of giving capacity to stakeholders to address the demands of unique contexts through the use research based content driven by the complete schema identified in the RTP Model which was developed through reoccurring themes across multiple cases in which the practice based accounts and processes where more significant than the outcomes of individual projects

5. To disseminate and promote the use of the work of educational researchers through the sustained use of their efforts to address diverse student needs across multiple applications.

6. Raise awareness of the complete schema that needs to be considered and addressed for the implementation of research based projects as outlined in
national policies and frameworks that promote inclusive education. It may also assist in budget decisions and the allocation of educational funds efficiently through the guidance of future RTP initiatives.

7. Provides an example of ways in which researchers and educators can build on the strengths of their experiences to develop meaningful and long term connections to design complete framework that benefit from the range of standpoints to assist the education of students.

The knowledge and validation of individual RTP factors is beneficial, yet comprehending and enhancing the complex interrelationships between these factors is key to enhancing and sustaining the use of research-based projects in school settings. The importance of the integration between the content and the structure of education efforts was validated as an avenue that is foundational to bridging the RTP gap. This research confirmed that teacher educators share a responsibility for providing educators with a lens through which to view every learner as valued and essential. One way to cater for and value every learner is by employing the best researched practices when working with them. Similarly encouraging TE program designers to work collaboratively with educators by ensuring TE is “a lived experience” through the merger of course structure was unanimously described as an effective way to promote new knowledge and skill to enhance the success of individual learners. A joint approach between researchers and educators, with addressing student needs at the core of decisions, can provide coherent, collaborative, and relevant opportunities for practitioners to develop skills that are supportive and foster achievement for all learners. The ability to transfer knowledge and skills gained through the TE experience to school-based colleagues can also contribute to fostering strong relationships that promote may RTP endeavours.
With increased knowledge, shared ownership and capacity in effective use of research-based project, stakeholders can better address the contextual elements of their unique school settings. For all students to benefit from validated and effective research-based projects, the preparation of stakeholders must consider the ongoing, evolving and cyclic relationships which give capacity to ways that the gap between the broader elements of RTP and the desired practice can be reduced. The analysis of the six diverse extinct, sustained and scaled cases investigated confirmed that the same RTP factors may be viewed as inhibitors or enablers, depending on the sequence of events and the strength of the connections that are developed and valued. The strength of these interrelationships was also shown to contribute to the longevity of the RTP cases. Conversely, cases began to wound down when relationships between RTP factors were weak or missing.

The importance of the connections within and between the people, their preparation and the projects to create effective and engaging environments in which stakeholders are able to use research-based projects to address student needs is presented in the RTP Model. This model has emerged from the work of both researchers and school-based educators to assist future RTP initiatives.

It is intended that the data and model can advance the progress of inclusion in schools and the ability of teachers to respond to the needs of all students through enhancing the sustainment of research based projects at their schools. This study has contributed to addressing these concerns and has generated objective evidence about varying alignments and reoccurring and intersecting interactions across all elements within the RTP Model.
The use of the RTP model and its recommended application aims to promote the sustainment of the extensive knowledge base on inclusive practice to make policy, curriculum, materials, schools and classroom environments more responsive to students from different backgrounds and with different learning needs. Through the potential increased use of projects that enhance inclusion, it is hoped that segregation will be reduced based on performance levels or perceived abilities (Cunningham & Cunningham, 1992; Mastropieri & Scruggs, 1998; Mathes & Fuchs, 1994; Vaughn, Hughes, Klingner, & Schumm, 1998; Vaughn & Klingner, 2000).
Chapter 7. References


Allen & Johnson, (2012)


Allor, Fuchs, & Mathes. (2001)


**Backtracking practices & policies to research DEYTYA?**

Bain, A. (2004?)


Bain, A., McDonagh, S., & Lancastert, J. (2005)


Bereiter, (2002)


Borman, (2009)


Bybee, (2005)

Calhoon, (2005)

Campbell, D.T. (1975). Degrees of freedom and the case study. *Comparative Political Studies, 8*(1), 178-191


Carnine, Silbert, & Kame’enui, (1990)


Chris, (2009a)

Chris, (2009b)


Department of Education & Employment (UK), (1998)


Diane, (2007)

Disability Standards, (2005)


Education Research in Australia


Ellis, (2005)

Englert, & Tarrant, (1995)


Erwin, (1993)


Focus Group. (2009)


Fuchs, (1993)


Fuchs, Fuchs, & Hamlet, (1989)

Fuchs, Fuchs, & Kazdan, (1999)


Good, Guba, & Kaminski, (2002)


Hall, G.E. (2009)


Huberman & Miles, (1987)

Huberman & Miles, (2002)


Janney, & Snell, (1997)


Jenkins, & Leicester, (1992)


Keller, (2002)


Korthagen, (2001)


Kuhn, & Stahl, (2003)


Lincoln, & Guba, (2000)


Loucks-Horsley, & Stiegelbauer, (1991)


MacArthur, Schwartz, Graham, Molloy, & Harris, (1996)


Marriam, (1998)


Mishler, (1996)

Mishler, (2000)


Morrison, (2002)

Morrissey, (1997)

What Matters Most: Teaching for America’s Future
The National Commission on Teaching & America’s Future

National Inquiry into the Teaching of Literacy, (2005)

National Joint Committee on Learning Disabilities, (1999)


National Research Council (1998)


Noble, (2010)


O'Leary, (1996)


Orland, Connolly, Fong, Sosenko, Tushnet, Yin, Burt, & Warners, (2008)


Patton, (2001)


Randell, Giles, Nelley, & Smith, (2002)
Research and its impact on Australian Schools


Rutherford, W. L. (1982). *Describing the concerns principals have about facilitating change*. Austin, TX: Austin Research Development Center for Teacher Education.


Sam (2007)

Seanlon, Deshler, & Schumaker, (1996)


Shinn, (2002)

Shinn, & Good, (1992)

Shinn, Knutson, Good, Tilly, & Collins, (1992)


Skin et al. (2000)


Slavin et al. (2006)

Slee, (2005)


Stainback, & Stainback, (1991)


Stanovichich, (1986)

doi:10.1177/00222194970300502


Teacher Knowledge in Action


Toch, T. (1982). Teacher centres may collapse when they are needed most. *Education Week, 1*(22), 5-14.


**Wilma, (2009)**


Appendix one

Research to Practice Survey (part 1)

Personal Details

Name: 
Age Range: 35-39, 40-44, 45-49, 50-54, 55-59, 60-65

Educational qualifications

(Please complete the fields in the table below)

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Year attained</th>
<th>University</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Employment Experience -Please begin with current school

(Please complete the fields in the table below)

<table>
<thead>
<tr>
<th>Name of employer/school</th>
<th>Years</th>
<th>Grades taught/ special needs</th>
<th>Responsibilities</th>
<th>Executive Position/Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Are you currently at the school where your project was implemented?  Y / N

Please provide a brief statement on the socio economic status of the community and demographic details of the setting where your project was implemented.

**Implementation Setting Details**
Please list any other relevant implementation settings details

Please complete the table below

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of students at the school</th>
<th>Number of students involved in the project</th>
<th>Number of staff at the school</th>
<th>Number of staff involved in the project</th>
<th>Number of funded students at the school</th>
<th>Number of funded students involved in the project</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Project Details

Masters research based project title

Briefly describe why you selected this type of project for your setting

Please complete the project details by responding to all the fields in the table below

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of students involved</th>
<th>Year level</th>
<th>Number of staff involved</th>
<th>Was the project generally perceived to be beneficial? Y/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beyond</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>(prediction)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If your project was viewed as beneficial please indicate who supported it or you and how?

Did this support change over time? Y/N How did the support change?
Was there a body of research that was used to build this project (for example CBA, CBM, Peer Tutoring)? Y/N Please give brief details

Was any training available for teachers, administrators or community members involved in implementing the project? If so please provide details

Did the project include any materials or resources such as student materials, checklists, teacher guidelines or manuals? Y/N If so please list them

Please describe any factors that assisted in your projects initial implementation
Project Details continued

Clarification of operational conditions

*Project extinct* – Project terminated at the conclusion of the year

*Partially sustained* – Operational beyond year of implementation (course requirement) however, project form was not fully consistent with project guidelines.

*Sustained* – Project continues to be utilized in the same capacity as it was in the implementation year

*Scaled within setting* – Project has been utilized with staff/students beyond those that were planned at the initial implementation year (within the same setting)

*Scaled beyond setting* – Project has been utilized in settings beyond the original implementation setting

*Note implementation year refers to year the project was undertaken as a part of the CSU course requirement.*

Using the operational conditions defined above, please tick the box that best describes your project status at the end of each year in the table below

<table>
<thead>
<tr>
<th>Year</th>
<th>Project extinct</th>
<th>Partially sustained</th>
<th>Sustained</th>
<th>Scaled within setting</th>
<th>Scaled beyond setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What evidence could be given to confirm project status each year? For example participant surveys, standardized results etc.

Do you expect the outcomes/features of your project to continue in and beyond 2009? Y / N

Do you expect that your project outcomes/features would continue if you were no longer at your project implementation setting? Y / N
Has the Principal or deputy principal changed since the project started? Y / N

Has this influenced the projects status? Y/N If so how?

Please describe any factors that positively or negatively impacted upon the status of your project during the last three years (please include additional pages if required)
Research to Practice Survey (part 2)

Implementation Integrity Checklist (IIC)

<table>
<thead>
<tr>
<th>Checklist</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Did your project use a pre existing program with guidelines or instructions (for example, CBM, CBA, DIBELS)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. If so were they utilized?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Was there consistency in the implementation of those features?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Were suggested project materials, such as workbooks or manuals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Were results collected and calculated in accordance with guidelines or instructions provided?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Was the project evaluated using the guidelines or instructions provided?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2a. Briefly describe how you maintained project implementation integrity during the required CSU implementation?

b. and after the required CSU implementation period?

How was the project evaluated?
Investigation Categories

Please respond with a 1, 2, 3, 4 or 5 in each box of the following four tables

1- Always
2- Mostly
3- Sometimes
4- Rarely
5- Never

NA-Project is extinct

Please include additional pages if extended responses can be offered

<table>
<thead>
<tr>
<th>Collaboration</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Were there opportunities for substantive and frequent communication and interaction with other stakeholders (e.g. project coordinators, staff members, administrators, parents)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2a Was responsibility of the project shared by all stakeholders?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2b Was ownership of the project shared by all stakeholders?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3 Was there a sense of mutual respect for the project amongst stakeholders?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4 Were there mutually identified</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. boundaries,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. structures and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. purposes for the implementation and sustainment of the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5 Was there engagement in pursuit of genuine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. questions,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. problems and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. solutions amongst stakeholders?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.6 Were stakeholder’s co operative?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.7 Were system policy goals of your implementation setting well aligned with the goals of the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.8 Were</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. norms,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. expectations and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. roles of the Masters students and CSU academic staff mutually aligned in relation to the implementation of the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.9 Was there an awareness of individual strengths of the stakeholders for the purpose of the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.10 Was there an awareness of the changing needs of the stakeholders throughout the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.11 Was there a sense of partnership amongst the various levels of stakeholders?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.12 Were there opportunities for feedback across multiple levels? Eg. Teachers, executive etc.

1.13 Were teachers provided with an opportunity to contribute to the research project? Eg through identification of need, design or implementation

1.14 Did the project create links between theory and practice in your setting?

1.15a Were stakeholders united?
   b. Were the intentions of the project understood by all?

### Key collaboration components

1.16 Please describe the level of stakeholder “buy in” (interest, involvement) throughout the project?

1.17 Please describe the level of shared ownership of the changing elements or features throughout the project?

1.18 Overall how would you describe collaborative efforts (working jointly towards a common goal) throughout your project? Please include any features that you believed supported or inhibited your project?
Please respond with a 1, 2, 3, 4 or 5 in each box of the following four tables

1- Always  
2- Mostly  
3- Sometimes  
4- Rarely  
5- Never  

NA-Project is extinct

Please include additional pages if extended responses can be offered

<table>
<thead>
<tr>
<th>Support</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Were</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. instructional,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. monitoring or materials available to stakeholders?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2 Was adequate time available to implement and support the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3 Was leadership support ongoing?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4 Were well developed student materials available to teachers?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5 Did support structures change as the needs of individuals changed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.6 Was technology used as a support?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.7 Were teachers sufficiently prepared to participate in your project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.8 Were stakeholders able to seek assistance when required?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.9 Was there continuity in support?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.10a Were opportunities for feedback from participants woven into the project design?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Was feedback emergent (helped with what to do next)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.11 Did the project leaders have an awareness of the demands placed on practitioners?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.12 Was there a team or a network that was responsible for the projects implementation?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.13 Were regular meetings held where stakeholders could share experiences?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.14 Did students or project participants whom the project was designed to benefit, respond positively to the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.15 Did your peer cohort respond positively to the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.16 Did communication throughout the project include staff from multiple levels?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.17a Was the effort involved in bringing the project to the school recognized in feedback on performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.18 Was there clear evidence of school based support for the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.19 Was additional time allocated to stakeholders to maintain the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.20 Was student learning central to the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.21 Was evaluation an emergent function (evolved from actions) rather than an add on?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.22 Was sufficient instructional time provided by project leaders to ensure stakeholders were familiar with project details?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.23 Were stakeholders actively involved in the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.24 Was the project supported by research?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.25 Were instructional leaders supportive of the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key support components**

2.26 How were time and resources allocated throughout the project?

2.27 How was consistency in support maintained?

2.28 How were competing demands limited to achieve a balance of multiple agendas?
2.29 Was there initial teacher enthusiasm? Y/N How was this supported, encouraged or enhanced?

2.30 Please describe any other factors/features that supported or inhibited your project (These may include ongoing feedback, shared responsibility, mutual respect/positive student and peer responses, pride in achievement or effective communication).
Please respond with a 1, 2, 3, 4 or 5 in each box of the following four tables

Please include additional pages if extended responses can be offered

<table>
<thead>
<tr>
<th>Responsiveness of Research</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Did the project provide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. specific directions or</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. materials?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2 Was the project manageable for stakeholders to implement?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.3 Was the project supported by research based evidence?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.4 Was the project effective in the contexts of your setting/application?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.5 Was the project flexible enough to respond to the changing needs of your setting?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.6 Was the project consistently relevant to the needs of the students and staff?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.7 Was the project</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. practical,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. feasible and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. accessible to participants?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.8 Was project data useful in addressing the needs of your setting?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.9 Were opportunities available for the development of participants’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. practical skills and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. knowledge to support the project?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.10 Did the project cater for the variance in staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. abilities and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. needs?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.11 Did the project respond to genuine teacher concerns?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.12 Was the project responsive to the needs of classroom contexts?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.13 Did the project have the potential to be scaled beyond its initial planned implementation?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.14 Was the project a good contextual fit (with your implementation setting)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.15 Was the project valued by students?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.16 Were the project features adopted effectively?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.17 Did the project respond to the personal growth in skills of stakeholders?

3.18 Would you describe your project as a process rather than an event?

3.19 Would you describe your project as having the potential for a school level design for a school level influence?

3.20 Would you describe your project as self reinforcing?

**Key Responsiveness of Research components**

3.21 How was the research responsive to perceived practitioner need?

3.22 How did the research make a practical difference to the needs of your students, stakeholders and setting?

3.23 How was the research responsive to organisational demands of your setting?

3.24 Are the any other factors or features that contributed or inhibited your projects responsiveness to the needs of your setting?
### Teacher Education (CSU Masters Course)

<table>
<thead>
<tr>
<th>Question</th>
<th>Always</th>
<th>Mostly</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Was the teacher education project based on a complete theoretical framework?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2 Was there consistency in a. design and b. implementation within and across all course subjects?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3 Was the course design a. adequate and b. complete?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.4 Did the course provide a useful intersection of process and content?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.5 Did CSU staff and CEO staff members share a. mutually aligned norms, b. expectations c. and roles?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.6 Was the course structure a. responsive and b. cohesive?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.7a Was there consistency in the marking of all subjects?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.7b Did the course provide effective delivery of intended key components?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.8 Did the teacher preparation experience maintain flexibility to ensure project designs could be responsive to unique educational environments?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Key Teacher Education components**

4.9 Were there any features of a theoretical framework /schema around which the course was designed that assisted in the design and implementation of the project? If so please outline them.

4.10 How was the course design responsive to practitioner needs and the needs of the unique project settings?

4.11 How did the consistency in the design of subjects and their implementation influence your project?

4.12 Did your project replicate or modify any feature of the course design? How? (For example, the embedding of key ideas within and across subjects)

4.13 Please include any other comments about the ways in which the course design and implementation positively or negatively impacted the status research project?
Fisrt Interview Schedule

Open ended interview questions

1. Could you please briefly describe your project?
2. How was your project designed to meet the specific needs of your setting?
3. What were the project’s objectives?
4. Did it meet these objectives? How? Or why not?
5. What is the current status? How did it change over time?
6. What factors influenced that status of your project over the period of its implementation?
7. How did the master’s course influence the project? Were there specific features that exerted an influence on your project?
8. Did you replicate any aspect of the CSU course in your setting?
9. Was there a sense that your efforts were making a difference?
10. Were there any other factors that you feel may have contributed to the status of your project?
11. Is there anything else you would like to add that influenced the implementation or extinction of your project?
12. To conclude, from your experience what would you say are the main factors influence the translation of research into practice in inclusive education settings?
Appendix 3

Semi Structured Interview

Now that you have looked at the survey which identifies the literature based RTP assertions, my aim is to try to get a deeper understanding of what processes and structures unfolded at your school that contributed to the factors you identified in the first interview and survey.

Collaboration
Collaboration is a general and widely interpreted term.

1. How is collaboration structured at your school?
2. Can you describe any specific features/examples of collaboration that promoted the project’s implementation? Was there anything that inhibited it?
3. How did examples of collaboration impact the sustainment or extinction of your project?

Ask if the answer to your priority follow-ups do not emerge from the answers to the above questions.

What do you mean when you refer to collaboration in relation to this project?
How did collaboration change throughout the project?
What practical actions/features promoted collaboration with your settings?
Was there anything that hampered collaborative efforts in your school?

Chapter 1. Support
The need for different types of support (including time, resources, peer, executive support) rated highly in interviews and survey.

4. How would you describe the supports at your setting?
5. How did your educational system support the project?
6. How could the education department support the use of research based projects in our schools?
7. How did stakeholder “buy in” increase as the project success increased? Why?
8. Are there any specific types or levels of support that stand out in terms of the way the project was influenced?

Ask if the answer to your priority follow-ups do not emerge from the answers to the above questions.

What school structures were in place to support the project and staff?

Leadership
Leadership has been presented as being a strong contributor to the projects status.

9. Please describe the leadership style of your principal?
10. How did this leadership style impact your project? Please give examples
11. In what ways did you provide a unique contribution to the implementation and sustainment of the project? What characteristics, skills or strengths did you require to do this?

Ask if the answer to your priority follow-ups do not emerge from the answers to the above questions

What effect did leadership have in your setting?
How did it manifest in the organization in practical ways and how did it affect the project?

Teacher Education

Increasing teacher knowledge of research has been suggested as being important to the practical applications of projects.

12. How did features of the CSU course have an impact on your knowledge and skill level in promoting the use of research based projects?
13. What aspects of the degree helped with the design and implementation of the project?
14. How was research based knowledge delivered to staff at your school? Was it then used by them?

Ask if the answer to your priority follow-ups do not emerge from the answers to the above questions
Is there any aspect of the course that you would change or modify?

Practical Implementation and Responsiveness of Research

15. How is technology used in your project?
16. How could technology be used to gather feedback about the project? How could this happen formally? Informally?
17. What structures were in place to maximize the use of standardised results or research based knowledge? Did this change over time?
18. How did your setting address competing demands placed on teachers? How were workloads structured? Shared?
19. How would you describe the standing of this project in terms of the school's priorities? Has that changed over time?
20. How was the project given status and why?
21. How was the implementation of this project different from other projects you have experienced? Use?
22. How did “buy in” increase as the project success increased? How did that impact upon the role of the project itself?
23. Feedback was also identified as a key factor. How was feedback incorporated into the design of your project?

Ask if the answer to your priority follow-ups do not emerge from the answers to the above questions
How could the use of technological support further enhance your project? How would you organise this differently for future projects? Why?
Can technology be used in a reinforcing way?
How was/is the projects implementation monitored to ensure integrity?
What processes were/are in place if concerns re implementation arise/arose?
A number of the factors associated with successful implementation were not so influential at the beginning so what catalyzed the project in the early stages of implementation?
What features of your project elicited positive or negative staff attitudes?
How did consistency in elements, processes or features of your project contribute to its status?

Other

How were you received as you introduced the project? Implemented the project?
Could you have enhanced this in any way?
What skills and knowledge would you suggest are critical for project co coordinators to poses to ensure research projects are successfully implemented in schools?
Appendix 4

Focus Group Questions

Black are the main questions and blue are the prompting and deepening questions to use as required.

1. All 6 case studies identified the importance of shared responsibility and ownership in implementing and sustaining RBP in schools. How can this be gained or scaled up? Is there a process? Should there be?

2. Collaboration has also been cited as a critical factor in implementing and sustaining RBP in schools. A comment was made about collaboration not always being harmonious and the need to push boundaries in some communities of practice to get things done. What can be done in schools to foster respectful disagreeing without animosity? (transparent participatory process)
   Intensity of focus and status have also been presented as a key priorities as they give the project more traction. How do you maintain a collaborative culture with a shared language, goals when the audience increases quickly?
   Time is a key in the implementation phase. How can we expect administrators to allocate time and resources at early stages when projects have not yet demonstrated their value?

3. Voluntary teacher or stakeholder participation and student gain have been suggested as key RTP components through literature based assertions as well as data collected from this research. How do you ensure maximum student opportunity if teacher participation is voluntary?
   Often people really believe in or are passionate about something, they drive it but it is hard to disseminate that passion to the whole school unless it is valuable. How can you disseminate that passion amongst a team?

4. Familiarity, confidence and comfort in the program are also essential so that it is not threatening. The program must address a real need. The key is determining accurate needs and finding where stakeholders are at and moving forward. How is this done with efficiency and accuracy? How is real need established?

5. In all 6 cases leadership has been attributed with the ability to make or break RBP in schools. Some comments about effective leaders indicate that they should be flexible, approachable, be able to provide consistency in support, be a good communicator, see things from multiple viewpoints, be a team player and be trusting. How can these attributes be fostered, enhanced or mandated in current or future leaders?

6. An interesting comment was made in one case study about how effective leadership is vital in driving the project without playing a main role. What could this look like? How can effective leadership drive a project without playing a main role? Attempting to have a discussion about dispersed control.

7. A number of you suggested the CSU course framework as being very effective in providing a structure or scaffold to promote a depth of knowledge and success.
Specifically how did it make a difference to your project and how can this depth of knowledge be transferred to other practitioners within schools?

How can you link university structures knowledge to schools to gain such a depth of solid knowledge? What can you do to promote this type of practice knowledge at school level?

Knowing why every element is included in a program is said to be important. It adds to the depth and strength of programs. How many people do you think really understand WHY they really implement specific programs or type of instruction? Does this make a difference to a programs status?

8. Increasing parent knowledge has also been said to increase schools accountability...How can school and system based accountability to implement and maintain RBP be promoted?

9. What are the factors that influence the translation of research into practice in inclusive education settings?