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INTERNATIONAL ELEMENTARY SCHOOLS AND
INTERRUPTED STUDENTS:
A STUDY OF CURRICULUM, PEDAGOGICALLY-
ENGAGED TIME AND READING DEVELOPMENT

by

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PRTCAT002

A dissertation submitted in fulfillment of the requirements for
the award of the degree of

Masters of Education

Faculty of the Humanities

University of Cape Town

JUNE 2008

Supervisor: Professor Johan Muller

DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

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Declaration

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**DECLARATION BY CANDIDATE FOR THE DEGREE OF
MASTER IN THE FACULTY OF HUMANITIES**

I, Catherine Cutchins Pritchard, of 11 Harion Court, Albion Road, Rondebosch, 7700 do hereby declare that I empower the University of Cape Town to produce for the purpose of research either the whole or any portion of the contents of my dissertation entitled *INTERNATIONAL ELEMENTARY SCHOOLS AND INTERRUPTED STUDENTS: A STUDY OF CURRICULUM, PEDAGOGICALLY-ENGAGED TIME AND READING DEVELOPMENT* in any manner whatsoever.

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June 2008

Acknowledgements

Professor Johan Muller of the University of Cape Town supervised this dissertation. I am grateful for his commitment to this project. Joe helped me to clearly see the finer points of my dissertation. He was particularly helpful in allowing me to understand both the large picture and small details of my study. I am thankful and acknowledge his dedication to my work and for the many late evening meetings.

I am very grateful to both the American International School of Cape Town and the Washington International School. Both schools were fully committed to helping me in any way possible, and both were extremely helpful in providing any documentation needed. In particular, I would like to thank the principal of AISCT, Mr. Ryan Blanton, for allowing the Reading Progress Study to take place at the school and for his thoughtfulness and encouragement. Furthermore, I would also like to acknowledge the teachers of AISCT that gave of their time, intellect and support to the gathering of data and the writing of this dissertation.

I also thank the parents and students of AISCT that participated so willingly in this study. Without their openness, clarity of thought and contribution of time, this study would not have been possible.

To all of my friends, who through the past two years have given support, encouragement and understanding of my commitment to this work, I am deeply grateful. In particular, I would like to acknowledge Mark Baker for his unwavering positive attitude and support.

To my husband, Gustav, I give my deepest thanks and sincerest love for the countless hours of support, editing and conversations regarding this work. His enduring support made this work possible, and to whom I dedicate this dissertation.

Finally, I am eternally grateful for the saving grace of the Lord Jesus Christ who, through His Word, enabled me to continue in this endeavor. Psalm 121:1-2

Abstract

International elementary schools and interrupted students: a study of curriculum, pedagogically-engaged time and reading development

This dissertation is concerned with the question of how reading development is influenced by the increase of pedagogically-engaged time amongst interrupted students within a particular curriculum. The study arose from observations that students of an interrupted educational background seemed to be achieving at a lower reading level than uninterrupted students – and thus, the study sought to establish the possible reasons and remedies for this problem. This study was primarily located at the American International School of Cape Town (AISCT), Cape Town, South Africa; and secondarily located at the Washington International School, Washington, D.C., United States of America. These two schools were initially studied through the School Comparison Study in order to establish one school that implemented a primarily traditional curriculum; resulting in the location of the Reading Progress Study taking place at AISCT.

After establishing the location of the Reading Progress Study, eight students in fourth grade were successfully sampled in order to establish the influence of the increase of pedagogically-engaged time amongst interrupted students. It was hypothesized that interrupted students, identified as those students that spent less than two years at their current elementary institution, would have a lower initial reading level than those students with an uninterrupted educational background, creating an underperformance. Furthermore, it was hypothesized that given an increase in pedagogically-engaged time, interrupted students would increase their reading level and close the cognitive gap that existed between themselves and the uninterrupted students.

The two groups of students, three interrupted and five uninterrupted, were initially tested to establish an initial reading level using the Developmental Reading Assessment in March 2007. Over the ensuing six months, both groups of students were tracked for the accumulated pedagogically-engaged time. This theoretical construct of pedagogically-engaged time comprised of: formal, targeted *interventions* at school; and informal, but habitual, *independent reading* at home, which enabled students to accumulate time-on-task in reading. The specific reading activities at

home were established and calculated through the use of open-ended questionnaires to the students' parents. The targeted interventions were calculated through a quantitative measurement of the specific interventions received by individual students. In October 2007, all students were again tested using the Developmental Reading Assessment to establish a final reading level. These three pieces of information – initial reading assessment, total accumulated pedagogically-engaged time and final reading assessment – served as the basis upon which the analysis and conclusion were made.

From the data analysis, some, but not all, of the hypotheses were supported. While the interrupted students did make gains in their reading level, they did not close the cognitive gap that existed between themselves and the interrupted students. Furthermore, the interrupted students made reading level development beyond expected maturation.

Four main trends were established, which when summarized, show that both groups of students made gains in reading level. The interrupted students made gains to close the cognitive gap that existed between their initial reading level and grade level reading ability. Furthermore, the uninterrupted students made gains beyond expected maturation. The study conclusions seemed to point to the factors of *time* and *cognitive demand* as the main contributing factors in enabling interrupted students to remedy their underperformance.

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Chapter I: Introduction

1.1 Motivation of the study

The phenomenon of international education and international schools is a relatively recent development in the field of education (Hill, 2006). A good proportion of the students attending these schools tend to be transient in their education, moving approximately every one to two years from country to country, and thus, from school to school (Renaud, 1974). This population of students with interrupted schooling (henceforth 'interrupted students'), however, is only part of the total make-up of the student body at international schools; also in attendance are students that are deemed to be stable and uninterrupted in their educational background. This amalgamation of students, wherein interrupted and uninterrupted students are educated together, brings unique challenges to international schools.

While interrupted students have the benefit of seeing much of the world, their education often bears the brunt of the instability and inconsistency associated with moving between different schools and different curricula. The mobile nature of these students creates inconsistencies within the coherence of education they received. Due to the interrupted nature of their educational background, these students often fall behind in their cognitive development, thus creating a gap between the expected grade level ability and actual ability. This gap will henceforth be referred to as 'underperformance.'

This study seeks to determine to what extent the particular repair systems functioning in a specific international elementary school environment are successful in narrowing the underperformance gap that interrupted students face.

In order to address how underperformance can be remedied for interrupted students a main research question was devised. This research question accounted for students that were interrupted in their educational background, attended international elementary schools with differing curricula, and needed some type of repair system in order to fill the underperformance.

To establish how a repair system influenced cognitive development, a particular area of development was chosen. Reading development and total

pedagogically-engaged time were chosen as the basis to determine both the cognitive growth and the influence of a repair system.¹

Thus, the overarching research question was:

Is reading development influenced by the increase of pedagogically-engaged time amongst interrupted students within a particular curriculum?

A study of this nature is relevant to the international school community as it could shed light on the connections between educationally interrupted students, their educational underperformance and the repair system. While this study recognizes that the conclusions are inferential and suggestive, there is evidence within this study to suggest that, given a particular repair system, students with an interrupted educational background will find success in achieving grade level ability within a specific curriculum.

The results of this study suggest practical implications for international elementary schools, as well as for the students' families. As will be shown through the course of this study, the amount of pedagogically-engaged time that students receive both formally (through interventions), and at home (through habitual, independent reading in reading activities) seems to have a direct bearing on the students' ability to fill underperformance gaps between expected grade level achievement and actual achievement.

1.2 Deriving the research topic from preliminary reading

In order to answer the question: *Is reading development influenced by the increase of pedagogically-engaged time amongst interrupted students within a particular curriculum*, this study compared reading assessment results from an interrupted group of students to that of an uninterrupted group of students at an international elementary school. By tracking the interventions and independent reading time the study aimed to determine if, after six months, the increased pedagogically-engaged time allowed for an increase in reading level development. In order to connect the concerns of this study to the greater body of research and

¹ The choice of measuring reading development will be discussed in later parts of this study.

knowledge regarding international education and curriculum studies, a comprehensive literature review was undertaken. What follows is a summary of the findings within that literature review that influenced and drove the research basis for this study.

Summary of literature review:

International schools, due to their very nature, find themselves with a peculiar group of students to accommodate within their curriculum – specifically, transitory students. An international school can have up to 25% of their student body turning over every year. This turn-over rate can be compounded by a semester turn-over rate of approximately 11% (www.aisct.org.za).

Due to the generally high fees at international schools, the students attending these schools often come from wealthy families, or are connected to large multinationals that finance the school fees. Thus, the students generally come from highly educated parentage. Although a transient (interrupted) population of students can be regarded as a positive aspect of the school, with new ideas continually entering the school, this particular population brings about many quandaries in the formation of the curriculum and thus a repair system.

Often students that are internationally transient do not stay at a particular school for more than two years. Many students falling into the internationally transient population have attended various schools. The high mobility of these students leads to a history of disruption and disjointedness within the education the child receives. As a result of transitions between different schools, the interrupted student inevitably misses certain concepts.

In a traditional curriculum, the sequencing rules are defined by the curriculum (Bernstein, 1999). In this way, a student at a particular grade level is expected to attain a certain amount of knowledge by the culmination of that grade level. The pacing within the classroom is curriculum based, and adheres to the sequencing outlined within the curriculum (Bernstein, 1975). For the interrupted students, however, the nature of their educational background assumes that the pacing and sequencing has been interrupted by changing schools; curricular expectations have also changed. When, therefore, an interrupted student again enters into a new school, with a new curriculum, he/she is often behind in the sequencing expectations of the new school. These interrupted students find themselves in the position of having

missed key elements of their education, and fall behind in their academic development, creating underperformance.

The need thus arises to develop a curriculum that will take into account the need for a formal repair system. If interrupted students are found to have fallen behind the expectations at the new school, there must be a formal repair system at the school to help these students fill the underperformance gaps.

According to Bernstein (1990), the repair system can function in one of two ways: either the repair system will put into place interventions to cope with the pacing; or the pacing rules will need to be relaxed to allow the student “catch-up” time in acquiring knowledge to meet the sequencing set out by the curriculum. This study investigated the first of these repair models – interventions that create more time for the students.

The vast majority of reading educators included within this study concurred that an explicitly directed and targeted method of teaching reading was preferable, and showed greater reading gains for students than minimal guidance (Mayer, 2004; Chall, 2000; Barone, 2003).² While certain aspects of progressive reading pedagogy seem to enhance reading instruction, researchers suggest that the basis for the reading program should be directed and pedagogically explicit (Chall, 1967; Chall and Popp, 1996; Stahl & Duffy-Hester, 2006). When reading instruction was directly targeted towards a specific area of difficulty, it was found that specific instruction in the form of interventions produced the strongest and most enduring results (Cunningham & Allington, 2003; Adams & Osborn, 2006).

The preliminary reading for this study showed that there appeared to be a connection between the type of curriculum employed and the type of reading instruction given by the school. When devising the research question, therefore, the curriculum type needed to be taken into account. Furthermore, the influence of a reading repair system implemented at school and at home needed to be explored. The research showed that there was a possible connection between curriculum type, repair type and reading development. Thus, when devising the research question, the repair system as it relates to school, home, curriculum and reading development, were understood as a system in order to suggest how each element was interrelated.

² As this study was specifically concerned with reading development, it is appropriate to present research regarding the connection between pedagogical methods and reading success.

1.3 Aims, Goals, Research Question and Hypotheses

Due to the nature of the student body at international elementary schools being both interrupted and uninterrupted in their educational background, these schools are faced with the problem of educating both groups of students effectively. The assumption that interrupted students are likely to have gaps in their knowledge base is the catalyst behind this study. The problem thus arose of how to implement an effective repair system, while at the same time allowing for continued education of the uninterrupted students.

This study sought to examine targeted pedagogically-engaged time as the concept behind a repair system for interrupted students. The main aim of the study was to understand the influence of pedagogically-engaged time as it effected reading level development.³ Reading level development was the means by which academic growth and progress was measured over time as a result of pedagogically-engaged time, both formally at school and informally at home. This will be referred to as the Reading Progress Study.

Within the framework of establishing the effectiveness of pedagogically-engaged time as a repair system, a comparative study regarding curriculum type was also completed. The aim of the School Comparison Study was to establish a location for the Reading Progress Study. As will be described in Chapter Two, the study needed to take place within a traditional curriculum context, and thus the School Comparison Study was undertaken to establish grounds for selecting a school that employed a traditional curriculum, and allowed for the study to take place in that curriculum context.

The following research question and hypotheses were therefore established:

Research Question:

Is reading development influenced by the increase of pedagogically-engaged time amongst interrupted students within a particular curriculum?

³ The methods and reasoning by which reading was chosen as the subject to measure growth will be discussed in later sections of this study.

Hypotheses:

1. The design features of a traditional curriculum, rather than a progressive curriculum, are likely to facilitate the use of interventions for students with an interrupted educational background.
2. Reading level gains within the interrupted student group are expected to go beyond expected maturation and to be larger than the reading level gains within the uninterrupted student group.
3. The uninterrupted student group is expected to make maturational gains in reading level ability.
4. The cognitive gap between the interrupted student group and the uninterrupted student group at the time of the second testing will be smaller than the cognitive gap at the first testing.

The following is presented as an alternative hypothesis to the above:

5. Independent reading that takes place at home will have an effect on the cognitive development of both groups of students, causing the interrupted students to make reading gains and the uninterrupted students to make beyond expected maturation reading level gains.

1.4 Summary of Research Design

In order to answer the research question: *Is reading development influenced by the increase of pedagogically-engaged time amongst interrupted students within a particular curriculum?* an empirical study was devised. This empirical study was designed with: pedagogically-engaged time as the independent variable, reading level development as the dependent variable and curriculum type as the means for selecting the targeted school site.

A review of the existing literature and of traditional and progressive curriculum was undertaken in order to formulate an inference regarding the type of curriculum better suited for international elementary schools dealing with the problem of interrupted students. The latter inference was then used to establish the location of the empirical reading study (Reading Progress Study).

A comparative study⁴ of two schools each with either a traditional or progressive curriculum enhanced the conclusions drawn from the literature review.

⁴ This comparative study can be found in the School Comparison Study, Appendix A

The empirical study was designed to evaluate pedagogically-engaged time as a means of a repair system in an international school that must address the problem of having a stable, uninterrupted population of students, as well as students that are interrupted in their educational background.

The empirical study collected data by means of the Developmental Reading Assessment (DRA) tests over two testing periods, March 2007 and October 2008, as well as data on the total accumulated pedagogically-engaged time for students. The reading assessment, DRA, is a reading test designed to determine grade level reading ability, as well as competency. The pedagogically-engaged time was calculated by assessing the time use of interventions at school, and by assessing the amount of time students spent in informal reading activities at home.

Two sets of students were tested during this study. The first group of students was interrupted in their education. The second group of student was those students that were considered, by this study's definition, to be uninterrupted in their educational background. The study participants were taken from the fourth grade class at the American International School of Cape Town (AISCT) in the school year 2006-2007. A total of eight students, (three interrupted and five uninterrupted) were successfully followed for academic development and success. The DRA results and the total accumulated pedagogically-engaged time from these two groups were compared to see if the repair system had an influence on reading level development.

Conclusions to the research question were reached based upon an analysis of the following data:

- Reading level gains between initial and final testing
- Accumulated formal pedagogically-engaged time at school (interventions)
- Accumulated informal pedagogically-engaged time at home (independent reading)
- Student Profiles

Due to the small sample size of the empirical component and the relatively short period of time in which this study took place, the study can only be classified as exploratory, as there are no conclusive answers offered, but rather indicative and suggestive trends derived from the data gathered.

1.5 Summary of methodology

As an exploratory study, the sample size was very small – encompassing a total of eight students in total.⁵ The first phase in the research process took the form of a comprehensive literature review. Within this review the current findings on international education, repair systems (both home-based and school-based), as well as curriculum types were established. As the empirical study was based on the findings of the literature review, the first part of this study dealt primarily with curriculum typology. This took the form of a comparative study between two international elementary schools that were thought to employ a traditional or progressive curriculum. This section of the study was entitled the “School Comparison Study.” Within this section the design features of a progressive and traditional curriculum were compared and contrasted, to establish a location for the empirical study

The main body of empirical research, which took place at the American International School of Cape Town (AISCT), was accomplished in three steps. As AISCT followed the northern hemisphere academic calendar, starting in August and ending in June, participants in the case study were in fourth grade during the first stage of the research. This comprised an initial testing in March 2007 of the students’ reading level. The reading level of each student was determined by the use of the Developmental Reading Assessment (DRA). This reading level served as the benchmark for subsequent assessments.

Following this initial assessment, the students were tracked between April to October for interventions used within the classroom, as well as independent reading activities at home. Accumulated pedagogically-engaged time for each student within the study was then calculated as a quantifiable measure, and factored into the final data collection. Furthermore, individual student profiles were created as a means to understand the individual needs and educational background of each participant. This construction of student profiles, together with the reading level data and total pedagogically-engaged time allowed for a comprehensive body of data. The sample size was small, therefore, specific and targeted research could be conducted amongst this group.

⁵ Chapter Three, section 3.3.2 will outline the study constraints that caused the sample size to be small.

The students were again assessed in October 2007 using the DRA. This second reading level assessment allowed for a quantifiable understanding of the reading level growth that each student was able to make during the course of this study.

The following areas of data were collected to establish the main trends of this study:

- Initial reading level assessment
- Individual student profiles
- Total pedagogically-engaged time (at home through independent reading and at school through interventions)
- Final reading level assessment

This data, coupled with the findings within the literature review, enabled a conclusion to be suggested to the main research question.

1.6 Overview of the dissertation

Following this introductory chapter, Chapter Two will deliberate on the current literature regarding curriculum typology, interventions, independent reading, and international education and schools. Through a focused discussion on reading, the connections to curriculum choice, the school-based interventions as well as at-home reading activities, will be established. Having surveyed this research upon which this study is based, the remaining chapters will deal specifically with answering the research question in this study.

Chapter Three will outline the Research Design and Methodology of this study. The design classification, key variables, and hypotheses and their rationale will be given within the first part of the chapter. Following this are the details of the sample design and sampling methods. Within this section, the School Comparison Study between schools employing progressive and traditional curricula will be presented. These findings were important to establish the location of the empirical study which was the main concentration of this study. After the findings of the School Comparison Study are given, measurement and data collection techniques are discussed. Within this description, various elements of the study regarding calculation of intervention time, independent reading time and reading level development, are discussed at length. The data collection section is followed by an

explanation of the data analysis process and how participant consent was obtained. The final section in Chapter Three discusses the strength and limitations of the study design, as well as efforts to minimize error throughout the study.

Chapter Four presents the analysis of student profiles. Within this chapter, each of the student participants is presented as an individual profile. The educational background, family situation, and previous schooling experience are reported upon. The students are broken into two groups, interrupted students and uninterrupted students. Within each of these groups, each participant's profile is presented and discussed.

Chapter Five presents an analysis and discussion of the study results. The student results are presented individually, as well as in summative form, using both chart and discursive formats. The commonalities in the results of the interrupted students and the commonalities in the results of the uninterrupted students are given. Four main trends, based on the study results, are summarized and given as the main findings of this study.

Chapter Six offers both the primary and secondary conclusions to the study. These are statements of the findings and an answer to the research question. Deviations from the original expectations are also discussed. Furthermore, the connections between the research conclusions and the existing literature that was presented in Chapter Two is highlighted and discussed. Prior to the end of the chapter, the possible larger significance of the findings within this study for international elementary education is offered. The chapter will conclude by suggesting recommendations for further scholarship in the area of international curriculum studies regarding interrupted students and pedagogically-engaged time.

Chapter II: Literature Review

2.1 Introduction

This study is concerned with the approaches to reading that will allow underperforming students to achieve reading success. The approaches to dealing with reading underperformance were researched at both the school and the home levels.⁶ Within the context of this study, the targeted school-based reading repair systems are referred to as ‘interventions’, while the home-based reading practices are referred to as ‘independent reading’. Together, these two repair systems provide the basis for the theoretical understanding of ‘pedagogically-engaged time’, which is later used in the empirical study. In order to establish what type of repair systems could be expected within schools, the literature and evidence for reading pedagogies, as well as their models were researched.

The research question of this study is as follows:

Is reading development influenced by the increase of pedagogically-engaged time amongst interrupted students within a particular curriculum?

There are several different components to this question: reading development; pedagogically-engaged time; interrupted students; and curriculum. This chapter seeks to present the current literature regarding these components. Although each component will be dealt with separately, each component will build upon the research basis of the previous component. This allows for an understanding of how each component relates to the others, and will thus bring about a comprehensive conclusion to what the current literature states regarding the research question.

Section 2.2 of this chapter presents the curricula approaches to dealing with reading underperformance. Within this section, design features of traditional and progressive curriculum methodologies are explained. These design features serve as a basis by which both phonics instruction and whole-language reading instruction are

⁶ While the term ‘underperformance’ will be used in this chapter, this term is to be understood in the greater context of this study. This study seeks to determine the repair systems put into place for underperforming readers, however, due to the international context of this study, these readers are underperforming due to the globalization of their education, and thus, they are under-prepared in their reading background. Therefore, while ‘underperformance’ will refer to the reading level of the students, it should be understood to stem from ‘under-prepared’ reading instruction.

understood. As will be argued, phonics instruction stems from a traditional curriculum, whereas whole-language instruction stems from a progressive curriculum. Therefore, in order to understand the debate between phonics instruction and whole-language instruction, the curricular basis must first be understood.

Section 2.4 details the specific means by which the school and home seek to remedy reading underperformance. The interventions used by schools as a means of a repair system are discussed. Furthermore, independent reading practices at home are presented. The presentation of literature regarding interventions at school and independent reading practices at home will serve as means to understand the theoretical basis of 'pedagogically-engaged time'.

After establishing the debate between reading methodologies and pedagogically-engaged time, section 2.5 deals specifically with interrupted students as a special sub-section of reading underperformers. In addition, section 2.5 also deals with the differences between international education and international schools. Within this section, the link between international students and the international curriculum is found. Furthermore, the interrupted student is discussed as a specific concern within reading underperformance. This section serves as a means by which the curriculum, the reading debate, the repair systems and international students are connected. This chapter will then conclude with final remarks regarding the literature findings (Hart, 1999)

2.2 Curricular approaches to dealing with reading underperformance

Introduction

The debate regarding the appropriate type of reading instruction for underperforming students was researched from the base of the curriculum to the implementation of the reading program. The curriculum from which the phonics instruction and whole-language instructional methodologies arose is presented as a means of understanding the fundamental differences between phonics instruction and whole-language instruction. Before elaborating, therefore, on the definitions, the arguments for and against both phonics instruction and whole-language instruction, and the research findings regarding phonics instruction and whole-language instruction, the curriculum design features from which these two types of reading methodologies originate are presented.

The controversy between whole language instruction and phonics instruction based reading instruction became important as a greater understanding of a reading repair system, since the reading curriculum seemed to dictate the type of repair system that was put into place. After presenting the design features of progressive and traditional curricula, the debate between whole language and phonics instruction based instruction is presented. This latter presentation serves a two fold purpose: firstly, it establishes the means by which schools try to prevent reading underperformance, and secondly, it provides a framework by which the different repair systems can be understood.

2.2.1 Traditional and progressive curricula design types

The progressive curriculum has proven to be very popular and appealing to many school reformers and educational philosophers (Kirschner et al, 2006). This type of curriculum assumes that the student will set the pace for accomplishing the material within the curriculum – thus creating a child-centered curriculum. This student based approach assumes that the student will progress through the process of acquiring knowledge at the student's own pace. Reasoning thus, given enough time, the student will acquire the knowledge within the curriculum, albeit at a different pace than other students in the same class (Ravitch, 2000). It should be noted that sequencing within this type of curriculum is quite loose and dependent upon the needs of individual students (Bernstein, 1975).

On the other side of the spectrum lies the traditional curriculum. This curriculum assumes a curriculum-based approach to learning. What is written and decided upon in the curriculum is taught, with specific and predetermined sequencing and pacing (Bernstein, 1975). Each grade level has specific learning goals designed in order to create intentional knowledge acquisition. The major subject areas are clearly defined and taught in time specific blocks (Bernstein, 1975). Although the learner is an active part of the learning process, the learner does not set the sequencing of instruction – that is left up to the curriculum.

The above explanation serves as a snippet of the definitions of progressive and traditional curricula. Chall (2000) contends that if a curriculum is placed on a continuum, with progressive at one end and traditional at the other, the vast majority

of schools would not fall strictly on either end. Any given curriculum, however, will tend towards one end of the spectrum:

The student-centered and teach-centered educational approaches are ideal types – patterns, configurations or syndromes. As patterns, or types, they do not necessarily share all the same characteristics in their every manifestation. But, overall, the similarities and differences of the two basic approaches are recognizable...most educational practices tend to fall easily into one or the other instructional category. Progressive education, for example, generally make a good fit with student-centered learning – with a strong focus on a student-centered curriculum and on individuals' reaching their potential as the goal of education. Classic education, on the other hand, forms a better fit with teacher-centered learning, given its greater concern for the well-planned acquisition of knowledge and skills. (Chall, 2000)

In order to fully understand the differences between the two ends of the curriculum spectrum, the design features that inform each type of curriculum must be understood. Furthermore the research behind the development of each curriculum needs to be substantiated. In the following sections, therefore, the specific design features as well as the research into the success of each traditional and progressive education will be offered.

2.2.2 Design feature of the traditional curriculum

Before the emergence of progressive education, traditional education was not titled anything other than education (Ravitch, 2000). The definition of traditional education only came about when there was a difference to note, between what had always been the mode of education and what was newly introduced as progressive education (Ravitch, 2000). Traditional education simply did not need to define itself – as it was believed to be the one and only way to educate. With the introduction of progressive educational theory, however, traditional education became known as traditional, and its parameters were defined. Tyack's 1974 work was commented on by Muller: "(Tyack) has made clear, 'traditional' pedagogy had never bother to name itself because it never considered that there was any alternative – it was 'the one best system', an essentially unreformable model in a world where the model and the world were indistinguishable" (Muller, 2001).

Bernstein analyzed traditional curriculum as having a Collection Code (Bernstein, 1975) and a Visible Pedagogy (Bernstein, 1990). Within the Collection Code, a strong classification of subject areas is evident. Classification is defined by

Bernstein as the level of integration between each subject area. Where the classification is strong, there are distinct boundaries between subject areas. Where the classification is weak, there is little to no boundary, as the line is blurred between subject areas (Bernstein, 1975). Strong classification gives rise to a Collection Code. The classification of knowledge is organized hierarchically. A student, therefore, begins to learn the most basic knowledge, and the ultimate mastery of the subject is only revealed later in educational training. The Collection Code is typified by a strong, segmentally arranged hierarchy of learning. The curriculum is designed to give the students a logically arranged order of learning, with the end goal of mastery of the subject area.

With the collection code, the pedagogy tends to proceed from the surface structure of the knowledge to the deep structure, only the elite have access to the deep structure and therefore access to the realizing of new realities or access to the experiential knowledge that new realities are possible. Where knowledge is regulated through a collection code, the knowledge is organized and distributed through a series of well insulated subject hierarchies. (Bernstein, 1975)

Not only does the Collection Code specify the material that is being taught, it also allows for a great variance in the way in which material is assessed. Within a Collection Code, individual teachers are free to assess and evaluate as individuals, since there is a high level of insulation between each subject area. As each subject area is not tied directly to understanding of another subject area, a teacher is unrestricted in evaluating a student's level of achievement for one specific subject area. The Collection Code, therefore, arranges imparted knowledge hierarchically and allows for "considerable differences in pedagogy and evaluation", based on the fact that each subject is taught individually (Bernstein, 1975).

Material taught in the classroom is highly visible to both the teacher and the students. The curriculum is planned, thus the teacher can present the curriculum, its structures, and hierarchical arrangement of knowledge to the student without question of what material will be taught. For this reason, the Collection Code inclines Visible Pedagogy Practice.

Visible Pedagogic Practice is formulated around the idea of the transmitter (teacher) and acquirer (student). Within the Collection Code, a Visible Pedagogic Practice (VP) puts an emphasis on examining the cumulative knowledge the acquirer has learned from the transmitter. The criterion for this evaluation is external, in that

the acquirer is examined on external objectives, rather than against peers, and the acquirer is explicitly told the requirements of evaluation. Thus, when a student is evaluated, he/she is evaluated against objectives set out by the curriculum, rather than against peers. The following implications of the VP structure are summarized by Bernstein:

The child moves through a series of specialized statutes in time, her/his conduct, achievement or aspiration is relative to a particular status and the child is subject to normative criteria. He/she is not measured against himself/herself but only against those sharing a similar temporal category. From this point of view the child competes only with those in a similar temporal category. In this way competition is reduced, for jealousies, envious feelings, operates towards his/her peers. This not to say that the child does not direct negative feeling towards other than his/her peers, but that he/she is aware, or can be made aware of a distributive rule which privileges older children; a rule which is not personal but public. (Bernstein, 1990)

This point becomes important as the VP is compared against the progressive idea of Invisible Pedagogy in the next section.

Traditional design features of curriculum have been referred to as the opposite of everything progressive – if it does not fit into a progressive theory of education, then it must be traditional. On the other hand, Greek, Latin and Mathematics were once considered ‘traditional’ education, and such subjects as social sciences, hard sciences, sociology, foreign languages and the like were consider progressive (Ravitch, 2000). As educational theorists developed the notions of child-centered means of education, these previously ‘progressive’ subject categories became as traditional as Greek, Latin and Mathematics. The notion, therefore, of what is strictly ‘traditional’ is based on what is the newest trend in progressive education.

Although what is deemed ‘traditional education’ is defined by the changing ideas of the current progressive movement, this study will assume that traditional education is defined by Bernstein’s basis of a Collection Code with a Visible Pedagogy.

2.2.3 Design features of the progressive curriculum

In this section, Bernstein’s (1990) design features of the progressive curriculum will be outlined. Furthermore, the common theme to lump any “new” idea within the realm of education as ‘progressive’ will also be discussed.

Bernstein's definitions of the progressive curricula fall under the description of an Integrated Code and an Invisible Pedagogy. As within Bernstein's terminology for traditional curriculum, each of these terms refers to a different aspect of the greater definition of progressive curricular theory. In order to understand the greater definition of progressive theory, each of these terms must be understood in relation to the other.

An Integrated Code refers to curriculum design features in which subjects taught stand in open relation to each other. There is fluid movement between the teachings of individual subjects, so that an individual subject is not seen, but rather the topic of study or unit is seen above any individual subject. This blurring of lines between subjects allows for a marked attempt to reduce classification between subject areas. Within a totally integrated curriculum, there would be no fixed periods of time between areas of study. Rather, one subject would flow into another and traditional subject specific areas would be taught at the same time (Bernstein, 1975).

Due to the fluid nature of the material being taught, there is little common pedagogy. Rather, the child-centered education moves towards a broad spectrum of education, where the breadth, rather than depth of knowledge, is the objective. Students and teachers stand in an open relation to each other, and there is little hierarchy or structure placed on the students (Bernstein, 1975). On the open relationship between subjects and teacher-students, Bernstein states:

I suggest this will lead to an emphasis upon, and the exploration of, general principles and the concepts through which these principles are obtained. The pedagogy will be less concerned to emphasize the need to acquire states of knowledge, but will be more concerned to emphasize how knowledge is created. Such emphasis upon various ways of knowing, rather than upon the attaining of states of knowledge, is likely to affect, not only the emphasis of the pedagogy, but the underlying theory of learning. (Bernstein, 1975)

Specific subjects, times, and student-teacher relationships are blurred within an Integrated Code. "Integrated codes call for greater homogeneity in pedagogy and evaluation, and therefore reduce difference between teachers in the form of transmission and assessment of knowledge" (Bernstein, 1975).

Evaluation within the Integrated Code comes in the form of an Invisible Pedagogy (IP). Standing in contrast to Visible Pedagogies of Collection Code, IP does not seek to have the student fully aware of the means by which he is being evaluated. "Only the transmitter is aware of the temporal project of the child"

(Bernstein, 1990). Each child is evaluated by what he/she has achieved, rather than on external common standards set out by the curriculum. The differences within an IP evaluation are not used to compare one student against another, but rather against the child against him/herself. Bernstein outlines potential problems with this type of evaluative code:

...because of the more individualized or better personalized realizations expected, the child, by apparently competing only with him/herself competes with everybody. Here the child, despite the apparent democracy of the pedagogic regime, is placed in a more competitive relation, as comparisons are less likely to be age-graded. Thus jealousies, envious feelings, aspirations are likely to be less specifically focused and so more difficult for both the parents and the child to deal with. Rarely is there a pure form of an invisible pedagogy but rather an embedded pedagogic practice where the invisible pedagogy is embedded in a visible pedagogy: IP/VP. It is clear that, even for ardent sponsors of invisible pedagogies, this practice is generally confined to the child's early years; certainly by the secondary level the demand is for a visible pedagogy, as it is this practice which leads to professional occupational placement (Bernstein, 1990).

The above definitions of Bernstein's Integrated Code and Invisible Pedagogy will serve to define 'progressive curriculum design theory' for the purposes of this study. Within any educational movement deemed 'progressive' there are aspects of Bernstein's design features. Although not every form of 'progressive' theory fits exactly into Bernstein's definitions, these definitions will be held as a pure form of progressive curriculum design features (Bernstein, 1990).

2.3 Models and methods of reading instruction: the phonics instruction versus whole-language debate

Introduction

"Teachers are once more being reproached for their failure to make children literate. They are urged to stop using the wrong method or to concentrate on using the right method of teaching children to read" (Smith, 1992). Thus, the question arises: What are the best practices to teach children to read? Since the emergence of progressive ideology by educating holistically and naturally in the 1920s, a progressive stance toward reading instruction, known amongst other terminology as 'whole-language', arose. This is in contrast to what was accepted as the 'right' method to teach reading since classical Greek was first taught (Chall, 1979). The debate over these two methods of reading instruction developed into an enormous

debate that was termed by the late Harvard University Professor of Reading, Chall as *The Great Debate* (Chall, 1967). As illustrated from a quote within Cunningham's book *The Phonics They Use* the debate between phonics instruction and whole-language runs deep:

The question of instruction in phonics instruction has aroused a lot of controversy. Some educators have held to the proposition that phonetic training is not only futile and wasteful but also harmful to the best interests of a reading program. Others believe that since the child must have some means of attacking strange words, instruction in phonics instruction is imperative. There have been disputes also relative to the amount of phonics instruction to be taught, the time when the teaching should take place and the methods to be used. In fact, the writer knows of no problem around which more disputes have centered. (Cunningham, 1995)

The goal of this section is to deliberate on the different points within this Great Debate. To this end, the evidence for best reading instruction practices to prevent reading underperformance are discussed, as well as the different types of interventions which are likely to stem from a phonics instruction based or whole-language based approach.

This section will include an explanation of whole-language and its ties with progressive curriculum design theory, as well as phonics instruction and its ties with traditional curriculum design theory. The evidence offered by Chall (1967; 1979; 1996), Flesch (1981) and others will serve as a basis upon which an understanding of preventative reading strategies and inventions is formed.

2.3.1 Phonics instruction and whole-language instruction

Before discussing the finer points of phonics instruction and whole-language, it is necessary to link the curriculum design theory discussed in the previous section to each of these reading methodologies. With an understanding of the methodology behind each type of reading instruction, the reasons for and arguments against each methodology can be more clearly understood. It is therefore argued that a phonics instruction approach to reading falls within the traditional design theory, while whole-language is a product of progressive design theory.

Phonics instruction:

Phonics instruction uses the theory that teaching letter-sound correspondences is the foundational principle behind learning to read and write (Cunningham, 1995). Thus, when teaching reading through a phonics instruction based method, the individual letters of the alphabet are taught and the individual phonemes that arise from those individual letters are explicitly linked (Christy, 2005). Chall explains: “At the beginning reading stage, decoding written words to their spoken counterparts usually leads directly to comprehension. Phonics instruction is one of the techniques taught to enable beginning students to read the language they already use and understand” (Chall and Popp, 1996).

As phonics instruction progresses in difficulty, individual letter sounds are linked together in order to understand how two or more letters, create different blended sounds, and eventually form words to be read and spoken (Cunningham, 1995). This letter-sound correspondence dates back to the first century A.D. Roman educator, Quintillion. His work has been shown to use tables with letters and corresponding sound in order to teach children to read (Moustafa, 2000). As phonics instruction is thus the historical basis for teaching reading, it is thus considered to be traditional. This follows the argument that until progressivism came about, the default education was considered traditional.

Second, phonics instruction is also considered to be traditional because of explicit teaching of specific letter-sound correspondences. The phonics instruction approach teaches decoding skills with a focus on how sounds in words are formulated and represented by letters. This method of teaching calls for a formal and explicit manner of instruction (Gaskins, 2003). As is expected from explicit instruction, the instruction is teacher-centered and a top-down method of teaching – thus corresponding to Bernstein’s definition of traditional methods of instruction.

Reading instruction, according to phonics instruction proponents, is the key to reading instruction. Barone (2003), in her book *Literacy and Young Children*, states “Phonemic awareness is key to early reading development because the alphabetic principle – how sounds map out letters – is understood. We must explicitly teach phonemes”.

Whole-language instruction:

Phonics instruction can be contrasted with whole-language, as the whole-language approach to reading instruction falls in the progressive theory of instruction. The progressive terminology for discussing reading has various terminology – minimal guidance, guided learning, inquiry based learning, etc. (Mayer, 2004). For the purposes of this study, the term ‘whole-language’ will be used to discuss the progressive approach to reading. However, in some of the quotes presented in this chapter, other terminology such as “Look-and-Say” are used to refer to the same methodology.

Whole-language is a method of teaching children to read by emphasizing the use and recognition of words in everyday contexts. Rather than teaching the letter-sound correspondences, children are taught to look at the whole word and to derive meaning from contextual clues (Christy, 2005). Exposure to text, whether found in books, labels, signs, etc., is the most prominent feature of this program. In order for students to find success within the whole-language reading process, they must be exposed to a wide variety of written text (Chall, 1967). This method of reading instruction is considered progressive for two main reasons.

First, since this is not the historically practiced method for teaching, and since it arose out of progressive ideology as a ‘naturalistic’ method of teaching reading, it is considered progressive (Cunningham, 1995). The progressive movement of the 1920s brought about new methods of instruction, especially within reading. Secondly, whole-language is very closely connected to the ‘naturalistic’ belief of educating the whole child. Whole-language is rooted in the social activity model, which views students as inherently active learners. This means that, in the whole-language instructional model, teachers must lead “from behind” to encourage and motivate reading (Stahl, 2006).

At the heart of the whole-language movement is the idea that a child needs to be fully engaged, motivated, nurtured and involved in his/her own learning. This can be summarized as a naturalistic methodology of teaching, as championed by progressivism. Shanahan (2006) states “Whole-language has been known as a ‘grassroots movement’ nourished by the desire of progressive teachers.” Stahl (2006) similarly concluded that the whole-language movement is “a political movement, with a goal of transforming society through the transformation of schools.”

Smith (1992) offers insight into this view of education by showing how learning does not need to be viewed as work, but can rather be an exploration of the real-world that, in-turn, brings about a greater understanding and knowledge. He calls this view of education ‘informal.’ “This view is that learning is continuous, spontaneous, and effortless, requiring no particular attention, conscious motivation, or specific reinforcement; learning occurs in all kinds of situations and is not subject to forgetting. In this view, learning is social rather than solitary” (Smith, 1992). Smith goes on to explain that in order to foster this informal view of teaching in reading instruction, reading must be free from boredom, anxiety and the notion that failure is possible.

Smith’s desire, to see whole-language used in place of phonic, comes from his assessment that there has never been a body of research that shows that phonics instruction *makes* children readers (Smith, 1992). He argues that the appeal of phonics instruction comes from the fact that the method has been historically used, and that educators are hesitant in utilizing other methodology due to the unknown nature of results. In addition to this, Smith also sees phonics instruction as too complicated for children to learn. “The rules of phonics instruction are too complex (more than 300 correspondences between letters and sounds) and too unreliable (there is no letter that does not represent more than one sound, including silence, and no sound that cannot be represented by more than one letter), to be useful” (Smith, 1992). Although Smith does refer to Chall’s groundbreaking study in her book *The Great Debate* he dismisses her research, and remained convinced of this initial conclusion that phonics instruction cannot work in teaching reading.

An explanation for the continuing appeal of phonics instruction is a fear that children won’t learn if their learning isn’t organized down to the smallest detail. Children can’t be left to choose what and when they will learn – though they can make these choices perfectly well when learning to talk and to make sense of their world. It is a theory of innate wickedness, going back centuries that, left to their own devices, children would resist learning; children must be instructed in a proper climate of authority and retribution. There has to be a methodology – especially when children are put in the hands of an insensitive mechanical pedagogue. Such reasoning has always been self-reinforcing. The fact that so many children have difficulty learning under systematic instructional discipline is taken as proof that they need still more systematic instructional discipline. Phonics instruction and other structured methodologies have particular appeal to individuals who need to feel in control. (Smith, 1992)

The idea that phonics instruction cannot teach reading fully is the reasoning behind the development of whole-language. Smith's call for a naturalistic methodology in reading instruction stems from the 1930s and 1940s rise of a child-centered curriculum that focused on the inner growth and development of the child at the child's own, individual pace (Chall, 1967). Chall explained the whole-language advocates in this way: "In fact, they actually feared imposing training on the child lest it frustrate him and produce not only small or no gains in learning but also permanent dislike of the activity taught and permanent personality damage" (Chall, 1967). This imposed training on a child through the use of phonics instruction was considered to be imposing a teacher-centered model upon a child. For the naturalistic educator, the phonics instruction method was simply not an option.

Helping a child to develop at his/her own pace also brought about a large controversy as to when reading instruction should take place. True naturalists saw the appropriate age for reading instruction to begin at age eight; however, with the launch of Sputnik, American education began to push for stronger academic achievement (Ravitch, 2000; Pulliam & Van Patten, 1995; Chall, 1967). Out of this, such programs as Head Start and Montessori early programs came about (Chall, 1967). Even though the trend in American education was for earlier reading instruction, the naturalist movement still sought to have the child instructed in reading only when the child exhibited signs of reading readiness.

2.3.2 Research comparison of phonics instruction and whole-language

Given that the debate between phonics instruction and whole-language is so fiercely contested, it is logical to examine the research basis for these reading methodologies. The problem with many of the different reading programs that have been implemented in the history of reading instruction in America is that these programs were often based on the newest fad and did not have any research basis (Stahl, 2006). Stahl (2006) cites the differing trends in education to be attributed to following what seems to work, and only changing methodology when a particular form of instruction is proved not to work through research. In order, therefore, to give a fair assessment of the impact of whole-language and phonics instruction on beginning reading, it is imperative to use only research based evidence, rather than what is deemed popular, or what 'seems' to work in classrooms.

Much of the research basis showing that phonics instruction is the reading methodology that most convincingly teaches students to read is taken from the collective work of Chall. It must be noted, however, that not all reading specialist agree with all of Chall's works. In reviewing Chall's work, and mainly that of her book *Learning to Read: The Great Debate*, Williams says Chall's research is made of "ill-conceived designs, poorly-controlled experiments, research whose fundamental purpose was to endorse and promote one particular point of view" (Williams, 1969). Although Williams argument would be enough to reconsider and re-examine Chall's findings and recommendations of a phonics instruction based reading program, Williams further comments on Chall's work is noteworthy. Williams goes on in his review to state:

It is difficult to quarrel with Chall's evaluation or her conclusions...It is sad to note, as Chall does, that research findings have not been an important factor in making practical decisions on methods and materials. Rather, they are usually used to justify decisions already made. It seems to be that on the basis of the evidence to date any sensible person would follow Chall's carefully considered recommendations and insist on at least the consideration of some sort of code-emphasis training in the initial stages of reading instruction (Williams, 1969).

Although Williams disagrees with the research methods used by Chall, it is apparent that even Chall's critics find her evaluations, conclusions and final research recommendations to be trustworthy.

Chall's book not only outlined recommendations for the type of reading instruction that is best for students, she also investigated the past trends in reading instruction. She summarized eight common teaching practices and beliefs from the 1930s until the time her book was published in 1967. She noted that these beliefs about good teaching practices came partly from research, theory, teachers, and faith that they worked.

- reading, comprehension, interpretation, appreciation all began from the outset
- meaningful reading – whole words and sentences, silent reading should be stressed
- students should learn words as whole. Before phonics instruction, use picture and picture cues. Only use phonics instruction when other methods fail
- phonics instruction should be spread out over six years
- drill of phonics instruction in isolation should be avoided, visual analysis and substitution should be used

- high frequency words repeated often for quick recognition
- all should go through readiness period, some take longer than others. Should not be pushed into reading before ready
- small group instruction passed on achievement/ability (Chall, 1967)

Chall noted that these commonly accepted teaching practices were first contested by Flesch's 1950 book entitled *Why Johnny Can't Read*. In commenting on Flesch, Chall states that his work made significant contributions in practical evidence for the greater populations on the needed and reforming principles for reading instruction (Chall, 1947).

Flesch's *Why Johnny Can't Read*, was revisited by the author in 1981, when he published the book *Why Johnny Still Can't Read*. His 1981 book called for a reminder of the need for school reform and a movement towards a traditional based design for curriculum across all public schools in America. Flesch's introduction to the 1981 book states that, although some improvements were made in reading reform, resulting from his first book, and from the work of Chall, it was imperative that he bring back to light the need for further reform in reading instruction (Flesch, 1981). As Flesch's second book was published only three years prior to the *A Nation at Risk* study, Flesch's analysis seemed to agree with the state of reading instruction in public schools prior to 1980.

Why Johnny Still Can't Read focused on the fact that the teaching of the Look-and-Say method (also categorized as whole-language), was the key reason why 23 million Americans fell into the category of 'functional illiterate'. Flesch stated that those falling into the 'functional illiterate' category were those Americans that did not meet a minimum standard of reading, and that the vast majority of those people were taught by the Look-and-Say method (Flesch, 1981). Flesch (1981) explained that the Look-and-Say method leaves out phonics instruction and that this vital missing step was the reason that they could not distinguish between spelling patterns, and thus, could not read to the standard of meeting literacy requirements (Flesch, 1981). Furthermore, Flesch contended that 19 million American never learned to read properly because they were taught using the Look-and-Say method only.

Near failure-proof methods for teaching all children to read are already available. Continued failure of schools to employ these (phonics instruction first) programs is at best negligent and at worst malicious...It took fifteen studies- some major, some minor – to disprove it (Look-and-Say) fully and thoroughly and to show profit from the phonics instruction-first methods. Students should not be taught Look-and-Say. This solid bit of scientific fact

has been ignored like all other solid scientific facts that have proved that Look-and-Say is a pernicious, phony method that should have been abandoned long ago. (Flesch, 1981)

Given the information from Chall (1976) and Flesch (1981), what can be said of the understanding of how students learn to read? Flesch sees phonics instruction as the key to reading success. Likewise, Cunningham outlines six facts that she sights as what we know about how children learn to read.

- Children from literate homes have over 1,000 hours of informational reading and writing encounters before coming to school
- Phonemic awareness is critical to success in beginning reading
- The division of words into onset and rime is a psychological reality
- Lots of successful reading is essential for readers to develop automaticity and rapid decoding
- Children become better decoder when encouraged to invent-spell as they write
- There is no research basis for the exclusive use of decodable text in beginning reading instruction (Cunningham, 1995)

Chall and Flesch would most probably agree with Cunningham's assessment. Chall's likely agreement with Cunningham and Flesch can be derived from the following: "Research from 1912 to 1965 indicates that a code-emphasis, one that views beginning reading as essentially different from mature reading and emphasized learning of the printed code for spoken language – produces better results, at least up to the point where sufficient evidence seems available, the end of third grade" (Chall, 1967).

When a phonics instruction program is used at the beginning of reading instruction, evidence indicates better reading results than when a whole-language approach is used (Chall, 1967). Not only must phonics instruction be a part of the reading instruction program, but Chall sees the necessity for phonics instruction to be the central component of a literacy program – "Systematic phonics instruction should be an integral part of early literacy instruction" (Chall, 1967). Furthermore, Chall sees the benefits in phonics instruction coming from the fact that this type of instruction is explicit and direct. "Direct, explicit and systematic instruction in how to complete the assigned classroom activities is the hallmark of a successful teacher of beginning reading. For example, systematic and explicit instruction for decoding, with a focus on how sounds in words are represented by letters, is essential for children to learn to read" (Chall, 1967). Schickendanz (2003) seems to agree with Chall's

findings that research confirms the relationship between oral language and print must be taught. In seemingly further agreement with Chall, Adams and Osborn (2006) state “Where phonics instruction were taught systematically and explicitly the advantages were the strongest and most enduring, resulting in higher word recognition, vocabulary and comprehension.”

Within the context of teaching phonics instruction in the classroom, both Ehri (2006) and Barone (2006) see the advantages of using phonics instruction, as it is the key to early reading success. Ehri (2006) states “If students do not receive instruction that provides them with a solid foundation in alphabetic and decoding, they will stumble and fall short in learning to read and spell.” It is suggested in her article that the following principles and recommendations for phonics instruction be implemented in the classroom for reading success:

- Phonics instruction is to begin early to create independence in reading
- Direct teacher instruction should be used rather than worksheets
- Phonics instruction should be limited to brief periods each day
- Students should use phonemic knowledge to read and write, and to build accuracy and automaticity
- Teachers should monitored growth within phonics instruction (Ehri, 2006)

Ehri’s (2006) recommendations seem to reflect the findings of Flesch (1981), Cunningham (1995) and Chall (1967), as these phonic principles of good reading instruction have now further been proven by many researchers to be the best methods for teaching reading. Barone (2006) reflects the necessity for early phonics instruction by showing that if phonological awareness is not built into early reading instruction, a poor first grade reader will in-turn be a poor fourth grade reader. Stahl & Murray (2006) mirrored Barone’s (2006) findings in their research that found that first graders who struggled with phonics instruction in first grade, were found to be in the bottom quarter of their class in fourth grade. The preliterate activities, therefore, and the emphasis on explicit, systematic teaching of phonics instruction was found to be the best determinant of good readers in later grades (Stahl & Murray, 2006). Another early reading researcher Moustafa (2000) confirms Barone (2006), Stalh & Murray’s (2006) evaluation of the need for early phonics instruction by stating “Knowledge of letter-phoneme correspondence is the best predictor of early reading proficiently” (Moustafa, 2000).

Despite these decidedly pro-phonics instruction researchers, Chall does allow for an understanding of why whole-language is practiced and supported by some researchers. Although Chall (1967) is not a proponent of whole-language, she offered an explanation for the appeal of whole-language. Chall (1967) explained that whole-language development sees the child as learning to read from the natural environment. The process of learning to read thus becomes as natural as the process of learning to talk. The meaning of words is emphasized over the understanding of how the word is formed and the recognition of how to read that word (Chall, 1979).

Teachers of whole-language have been found to incorporate phonics instruction into reading instruction (Teale & Youkota, 2000). In Teale and Yokota's (2000) research into reading methodology, they found "Primary grade whole-language teachers teach phonics instruction, but they do so as the need arises for the individuals or small groups of children in the context of more holistic lessons rather than as isolated, systematic phonics instruction for the entire class" (Teale & Youkota, 2000).

The use of phonics instruction was also found within studies by Stahl & Duffy-Hester (2006) who noted that whole-language instruction may use phonics instruction methods when it becomes central to the students' understanding of written words. "Whole-language teachers have advocated teaching children about letter-sound correspondences, but only as an aid to a child's ongoing process of getting meaning from a text or producing a text, and only as needed" (Stahl & Duffy-Hester et al, 2006).

Incorporating both methods:

There is research from Chall and others to suggest that the best reading program actually comes about from a blending of the phonics instruction and whole-language program (Chall, 1967; Chall and Popp, 1996; Stahl & Duffy-Hester et al, 2006; Teale and Youkota, 2000). This is not to say that all of the points or arguments for whole-language are accepted by phonics instruction teachers or vice versa, but rather, using key elements of a whole-language approach is preferred. In this way, phonics instruction would be the core of the instructional program, but components of the whole-language theory would be incorporated into the reading program.

In addition to the fact that advocates for phonics instruction do see merit in aspects of whole-language instruction there has been concerns about “over-kill” in teaching phonics instruction. Christie (2005), university professor and regarded specialist on emergent reading from Australia, found that the use of too much phonics instruction, or the over emphasis on phonics instruction as the only means by which reading was taught, will lead to “didactic learning without meaning.” Chall and Popp (1996) agree with Christie’s (2005) evaluation that too much phonics instruction can be detrimental to early reading instruction. Chall and Popp’s recommendation is to incorporate a balanced literacy program.

Throughout, one needs to balance teaching and learning phonics instruction with reading a variety of increasingly difficult texts. A caution – phonics instruction teaching may also be overdone. It is easy to teach more letter-sound correspondences and phonic generalizations than are productive. A balance is necessary. Similarly, a program of book reading that excludes any phonic instruction may be equally weak by denying students an opportunity to gain the phonic knowledge necessary for identifying unknown or unfamiliar words. Most students will profit from a program that includes phonic instruction, independent reading and discussion of literature, creative writing and spelling. (Chall and Popp, 1996)

Chall and Popp (1996) see the interplay between whole-language and phonics instruction in this way: phonics instruction should be the core of the program and the means by which emergent reading is taught – other word identification skills should be present for more advanced readers, and independent reading of greater and greater text difficulty should be present for reading advancement. They see the reading program as being based on three components: language, cognition and word identification (Chall and Popp, 1996). The reason behind using a phonics instruction based approach in the emergent reading program is as follows – “Word recognition based on visual or picture clues and context also helps. Instruction in phonics instruction, however, gives students a more powerful tool for identifying words – one that is more reliable than other words recognition techniques. Thus, phonics instruction plays a major role in the reading program for the beginning reader” (Chall and Popp, 1996). This is further compounded by the findings of Stahl and Miller (2006), who concluded that “Whole-language does not work well in the mastery phase because sound-symbol correspondence instruction is unsystematic and indirect.”

Morrow, Casey and Haworth (2003) in *Literacy and Young Children* also call for a balanced approach to reading instruction. They state that a literacy program must include phonics instruction, but also incorporate whole-language instruction of comprehension, meaning and purpose (Morrow, Casey & Haworth, 2003). Gaskin (2003) reflects that the balanced approach to literacy instruction should come in the form of a multidimensional approach to instruction. Twelve classroom characteristics are cited as the keys to early reading instruction: motivation, management, time, resources, variety, instruction, support, interaction, knowledge, practice, evaluation, and home-school connection. It should be noted that within these twelve recommendations, Gaskins sees phonics instruction as central to instruction. This is seen in the statement: “Direct, explicit and systematic instruction in how to complete the assigned classroom activities is the hallmark of a successful teacher of beginning reading. For example, systematic and explicit instruction for decoding, with a focus on how sounds in words are represented by letters, is essential for children to learn to read” (Gaskins, 2003).

The shift towards incorporating whole-language principles into a phonics instruction based, decoding emphasis system came with the release of Flesch (1981) and Chall’s (1967) major publications. From this, Basil readers were used as the means by which a balanced approach was gained. Through Basils, every skill needed in the phonics instruction area was incorporated, as well as moving children towards learning how to comprehend from “real-life” texts as their phonetic skills developed (Stahl, 2006). The 1998 International Reading Association and the National Association for the Education of Young Children confirmed and promoted the balanced literacy approach as recommended by the above research (Neuman and Bredekamp, 2000).

Christie summarizes the need for balanced literacy instruction:

Teaching reading involves constant attention both to the meanings constructed in texts and to the language structures in which those meanings are expressed. Good class work will involve: opportunity to practice reading, to discuss what is read, to examine overall genres that are read and their purposes, to review spelling patterns, and to understand associated writing that extends the literacy skills developed. (Christie, 2005)

Given the strong evidence for the need for phonics instruction centralized program, balanced with the comprehension and real-life connections offered by whole-language

instruction, it is evident from the literature that a balanced literacy approach seems to be the effective method for early reading instruction. The researchers cited in this body of research have conducted studies in America, Australia and Europe, reaching the conclusion that the reading instructional practices recommended are international and universal in their success.

Therefore, the evidence from the literature seems to suggest that in order to prevent underperformance in reading, a reading program that is phonics instruction based, yet incorporates elements of a whole-language approach, is best for students. This understanding of the basis for an appropriate reading program allows for a better understanding of how a phonics instruction based system seeks to remedy the problem of underperforming readers. This finding is directly linked to the focus of this study regarding reading underperformance.

Due to various reasons, one of which – interruption in education– is studied in this thesis, the phenomenon of underperforming students persists. In the next section, interventions employed by the school, and home reading practices will be discussed as a repair system to reading underperformance.

2.4 Interventions and independent reading

This section specifically deals with interventions at school and independent reading activities at home. Having established the models and methods of reading instruction in the previous section, the problem of reading underperformance is presented through the literature regarding home-based reading practices and interventions at school. The literature regarding home-based reading practices seeks to explain why and how independent reading practices occur at home.

These three sections – the debate between two types of reading instruction, interventions and independent reading – serves as a means to present the literature findings as related to the larger theoretical understanding of pedagogically-engaged time, and thus the basis for testing reading development within this study.

2.4.1 Contribution of the school: Use of Interventions

When discussing educational interventions, it is important to identify the following: for whom the interventions are meant, the level of schooling, and the theory behind the interventions being use. For the purposes of this study, interventions are considered to be reading activities at school that are direct and explicitly designed for underperforming individuals to increase reading performance. Interventions that are designed for individual students are characterized by what international schools are capable of offering, due to the generally small class size, where teacher are free to be more attentive to individual student. These types of interventions are identified by teaching towards an area of difficulty: targeted small-group instruction, one-on-one tutoring, second-language instruction, and time spent in reading (Cunningham & Allington, 2003). It is the hypothesis of this study that the uses of these types of interventions allow for gain in reading improvement.

For the underperforming reader, there are not enough hours within the school day to accommodate the teaching of missing knowledge, as well as new knowledge. Cunningham & Allington (2003) stress this point in regards to reading and writing instruction. “Some children simply need extended-day programs to keep up with or catch-up to their peers...Some children need very intensive one-to-one support if they are to become readers and writers. Tutoring those children can produce dramatically improved reading achievement” (Cunningham & Allington, 2003). The use of extended-day programs is another example of interventions, as it allows the student more time in which to learn the missing material in their knowledge base.

The above mentioned use of interventions, however, is specific to a traditional curriculum with subject specific time allotment. Within a progressive curriculum, the idea of interventions is not seen as a constructive way to answer the problem of underperformance due to the transient nature of students. Rather, within a progressive curriculum, individual subjects are inter-mixed and are set at the learners pace. It stands to reasons that the learner will simply work from the knowledge he/she has, and develop accordingly and at his own pace (Interview with Darling & Riley, June 2007). Therefore, as would be expected, there are little to no explicit uses of interventions in a progressive curriculum. The general strategy would allow time and the developmental nature of the child to take place with the hope that the child will eventually fill in any missing knowledge.

Therefore, there is a split between the view of how interventions should be used and implemented, depending on what type of reading program is implemented. A phonics instruction based program sees the need for specific and individually designed interventions, while the whole-language program generally sees the use of interventions as unnecessary in the long term education of the child. This finding is directly applicable to this study, as it determines which curriculum is likely to implement interventions. As this study seeks to determine the effectiveness of interventions, finding a school that implements interventions was crucial. The use of the literature within this section proved vital in understanding where the use of interventions could be found.

2.4.1.1 Reading Recovery

Despite the differences in opinion on how interventions for underperforming students should be addressed within a traditional or progressive curriculum, there is one program that is used and promoted by both types of curricula – Reading Recovery.

The Reading Recovery program can be found in schools that have both phonics instruction and whole-language programs (Fountas & Pinnell, 1999). While progressive curricula advocates prefer a whole-language approach to teaching reading, it is interesting to note that within a progressive curriculum, such as the International Baccalaureate Organizations' Primary Years Program (IBO PYP), phonics instruction is also regarded as an educationally sound teaching method. Many public schools in the United States, with a traditional basis for curriculum, advocate Reading Recovery as an extension of the already phonics instruction based instruction (www.readingrecovery.org). Therefore, it is important to recognize Reading Recovery as an intervention that is implemented and supported by phonics instruction advocates, and even by some whole-language proponents.

Reading Recovery was first developed in the 1970s by educators in New Zealand, and subsequently brought to the United States in 1984 (www.readingrecovery.org). The purpose of the program is to identify the lowest-achieving readers and to bring them up to appropriate grade level reading. Although the program is targeted at first grade students, Reading Recovery has programs for all elementary school grade levels (www.readingrecovery.org).

Instruction takes place during a one hour block each school day for between twelve to twenty weeks. The lessons are taught by a specifically qualified and trained Reading Recovery teacher. Students receive both individual and small group instruction within these time blocks. The instruction is broken into three major components:

- Phonological awareness (becoming sensitive to the sounds of letters)
- Orthographic awareness (developing a system of spelling and learning spelling rules)
- Word learning (learning site words that cannot be determined by general spelling rules) (Fountas & Pinnell, 1999)

The interplay between these three components of the program allows a child to develop reading knowledge in many separate but interrelated areas, with the ultimate goal of developing grade-level reading abilities. “Teachers work to ensure that, very early in the program, children learn how to look at letters, distinguish one from another, learn their names and associated sounds, learn to notice letters within words, and produce all of these responses with speed. Reading Recovery teachers begin with the known set of letters and work for expansion of children’s letter knowledge. In early lessons, teachers work to help children ‘gain footholds’ in print by learning letters and some simple words” (Fountas & Pinnell, 1999).

Reading Recovery is a research based program that has seen success in helping low-achieving readers meet grade-level reading requirements. The National Committee on the Prevention of Reading Difficulties in Young Children cited the need for a program that provided strong phonemic awareness skills, orthographic awareness and familiarity with words (Fountas & Pinnell, 1999). It seems that Reading Recovery offers these key areas of reading instruction, as well as developing readers into writers. Therefore, as an intervention for reading, Reading Recovery is heralded as a champion from both phonics instruction and whole-language reading camps.

2.4.2 Contribution of the home: Independent Reading

Reading is one of the few academic subjects that have a place in the every day life of families. While history and science may be discussed, and math occasionally used for practical purposes, it is reading that is most often utilized and seen to be in practice regularly (Van der Berg & Berger, 2004). Parents' level of comfort and ability to interact with their children around reading seems to be higher than many other subject areas. Thus, when a child is struggling with reading, studies have shown that middle-class parents almost intuitively know how to help their children succeed and how to be a part of the solution to the problem of underperformance in reading (Ball, 2003).

Ball (2003) noted that providing the means by which children are exposed to reading at home is common within middle class families: "This (the ability to expose children to reading) is part of a general strategic infrastructure of support and middle-class parents are adept at knowing when to intervene and how to make best use of additional resources within infrastructure" (Ball, 2003). Furthermore, Ball states that when moments of 'crisis' or underpreparedness arise, these parents have the ability to mobilize reading practices that will enable their child to find academic success.

These interventions are significant, when successful, in the construction of an educational trajectory that insulates the child from others who face similar difficulties but lack remedial resources...These bought-in supplements work to fill in for the shortcoming of school provisions and ensure a surplus of performance which distinguishes this child from others...in some respects, at these moments, economic capital is converted into cultural capital. (Ball, 2003)⁷

According to Ball, the ability of parents to provide children with additional academic reading support at home comes naturally to such parents. Ball quotes Lacey's 1970 study of HighTown Grammar in stating that the ability to provide academic support at home is a result of the "psycho-social-cultural resource of interventions" (Ball, 2003).

Hirsch (2006) seems to agree with the assessment that middle class families are able to provide more academic time for their children at home. "When a lot of learning is going on in school, that fact (haves and have nots) changes the proportion

⁷ It should be noted that although Ball uses the term 'intervention' he is not using this term within the same framework as this study. Ball uses 'intervention' to refer to home-based academic time, while this study refers to 'interventions' as those activities provided at school. Thus, when Ball refers to 'intervention', it should be read, in the context of this study, as 'independent reading'.

between the academic knowledge gained in school and the academic knowledge gained outside school. Advantaged students have a chance to learn a lot of academically relevant things from their homes and peer-groups, whereas disadvantaged students learn academically relevant things mostly from their schools” (Hirsch, 2006).

With the intuition, resources and time to provide students with additional academic support in reading, it seems that middle-class families not only recognize the positives of independent reading activities at home, but are strong proponents of these types of activities. Therefore, it would seem logical to conclude that the interrupted population of students within this study (who are from middle to upper-middle class families) would most likely be receiving some additional academic reading support at home through independent reading activities.

2.5 Internationally transient (interrupted) students

2.5.1 International students

Globalization within corporations and governments has led to a fluid working environment. Global professionals are now a group made up of diplomats, aid workers, employees of large multinational commercial organizations, and employees of international bodies, such as the United Nations (Hayden & Thompson, 1995). Along with the trend towards global professionals, comes the impact upon the children of these professionals.

Within the explanation of how global living affects children, Hayden & Thompson (1995) offer a word-picture to depict the impact of internationalism on children. Concentric circles can be used to demonstrate the level of intensity of “international living.” The first, and largest circle, represents general awareness of places other than one’s own national location. This is not necessarily living in a different country than one’s nationality, but rather an awareness of other cultures. Within this context ‘international education’ may play an important role. The second, and next largest circle, shows experience of other places through travel on short business trips and vacations. Within the third largest circle, are those, who reside for relatively long fixed periods, in another country, but do not change their perception of

'home' in doing so. The second to smallest circle shows a more permanent move to another country for extended periods of time, being exposed to culture, language, etc. This leaves the center circle to show 'home' in a new country that may not be the country of one's passport or the country one grew up in. This foreign location becomes home (Hayden & Thompson, 1995). Hayden & Thompson term these children within the smallest circle "Third Culture Children".

“...neither a product of the culture of the country in which they are studying nor of the country of their legal nationality, because for most of their lives they have lived in a variety of alien settings. It is children such as these, with their transient lifestyles and absence of identification with one culture, language based or concept of home, who very often look for their education at the international school (rather than the state school of a particular country). (Hayden & Thompson, 1995)

Within this context, the international school becomes an essential part of making a family 'at home' in another country.

Most often students that are internationally transient do not stay at a particular school for more than two years (Interview with Blanton, May 2007). Therefore, many students falling into the internationally transient (interrupted) population have attended various schools. This high mobility of these students leads to a history of disruption and disjointedness within the education that the child received. As a result of the transitions between different schools, the education that the interrupted student has previously encountered becomes inherently disproportionate to the permanently based student because the interrupted student has missed certain concepts. These disrupted students are then placed in the position of having missed key elements of their education, and fall behind in their academic development.

If disrupted students find that they have fallen behind the curriculum sequencing at the new school, there must be a repair program of some sort to help these students fill in the underperformance gaps.

Such repair systems are dependent upon the theory of the curriculum in place at any given school. In a traditional curriculum, the sequencing rules are defined by the curriculum (Bernstein, 1999). In this way, a student at a particular grade level is expected to have attained a certain amount of knowledge by the culmination of that grade level. The pacing within the classroom is curriculum based and adheres to the sequencing outlined within the curriculum (Bernstein, 1975). For the interrupted students, however, the nature of their educational background assumes that the pacing

and sequencing has been interrupted by changing schools and thus, curricular expectations have also changed. Therefore, when a student again enters into a new school, with a new curriculum, they may have fallen behind the sequencing expectations of the new school. Bernstein characterizes the idea that has been used by others, i.e. of creating more time for the student that has fallen behind in pacing, as a 'repair system' (Bernstein, 1990).

According to Bernstein (1990), the repair system can function in one of two ways. Firstly, the repair system will put into place interventions to cope with the pacing, or secondly, the pacing rules will need to be relaxed to allow the student "catch-up" time in acquiring knowledge to meet the sequencing set out by the curriculum.⁸

2.5.2 International education versus international schools

The terminology of 'international education' has only become part of the greater educational vernacular in the past fifty years (Hayden & Thompson, 1995). Before a discussion and explanation of why interrupted students are a special subsection within the category of underperforming readers is presented, it is necessary to gain an understanding of what is meant by 'international education'.

The term 'international education' is usually utilized in a casual manner, and there is little consensus as to what is specifically meant by it. In the broadest sense, the 1985 *Harvard Educational Review* spoke of the internationalization of education "attempts – in greater or lesser degree – to come to grips with the increasing interdependence that we face and to consider its relationship to learning" (Hayden & Thompson, 1995). However, most international schools and those intimately involved in international education would see the scope of international schools and education more carefully defined.

Hayden & Thompson (1995) contend that there is a definition difference between 'international education' and 'international schools.' The distinction is made by reasoning that within a particular nation-state education, 'international education' can be made part of the curriculum. An 'international school', on the other hand, is a school in which there is not a particular nation-state curriculum to be followed, but

⁸ This study seeks to investigate the first of these repair systems in the form of tracking pedagogically-engaged time through interventions and independent reading.

rather an ‘international’ curriculum is followed in order to bring about the whole ethos of the school as ‘international’ rather than a particular bend in the curriculum.

International Education:

Hayden & Thompson explain that American schools that wish to adopt an international focus within the nation-state curriculum do so in order to prepare students for the wider-globalize economic implications.

‘International High Schools’ which, while teaching all the normal courses, would place special emphasis on foreign languages and the international dimension of such subjects as history, economics, geography and sociology. The main rationale for such schools in this framework would appear to be related less to ideology than to a perception that, as the economic well being of the USA has come to depend to a large extent upon nations with languages and cultures very different from those of the United States, only benefit could result from a curriculum placing emphasis upon foreign language and international studies and thus adding ‘one more arrow to the quiver of one’s career options.’ (Hayden & Thompson, 1995)

Therefore, when discussing ‘international education’ there is a distinction that needs to be drawn – ‘International education’ refers to a school that, while taking into account a larger global picture, still teaches a particular national curriculum. This stands in contrast to an ‘international school.’

International Schools:

An ‘international school’ does not have a particular national curriculum that is followed, but rather adopts a curriculum that addresses the needs and diversity of its student body. Addressing the needs and diversity of the student body was the main reason that the International Baccalaureate Program was established in Copenhagen (Mathews, 2004). The International Baccalaureate Program is now recognized as one of the most prestigious and prominent curricular programs in international schools (www.ibo.org).

Hayden & Thompson (1995) discuss the following attributes of what makes an ‘international school’ distinctly different from simply offering an ‘international education’:

- Students and staff are representative of a number of cultural and ethnic origins

- Where the International Baccalaureate and/or a number of different national courses and examinations are offered and where the ethos is one of internationalism as distinct from nationalism
- May service a local and varied expatriate community of business people, diplomats, armed forces personnel
- May attract resident students from all over the world
- Are usually either proprietary schools, owned and controlled by one or two individuals, or are private schools governed by a board of directors consisting mainly of parents
- Are usually fee-paying or scholarship-funded
(Hayden & Thompson, 1995)

The curriculum offered at international schools, “demands a curriculum which is both concrete and specific, aimed at giving the student the skills that he needs to achieve the goal he has chosen and broad enough to include those subjects that enable him to see the world from a much wider perspective than is generally required in national systems” (Hayden & Thompson, 1995). Therefore, for the purposes of this study, Hayden & Thompson’s requirement for the definitions of international schools will be followed and used to evaluate schools that offer more than ‘international education’, by becoming ‘international schools.’

2.6 Conclusion

Interrupted students present a unique challenge within the greater context of underperforming students. The literature suggests that the reason these students fall behind in their education (and for the purposes of this study, their reading level), is due to their transient nature (Hayden & Thompson, 1995). Given the information presented in this chapter, it seems that underperforming students in reading are in need of three elements in order to find success: phonics instruction based reading program that includes elements of whole-language; targeted interventions at school; and independent reading activities at home.

Within each section of this chapter, reference to both progressive and traditional curriculum has been made. This was done in order to explain the basis for phonics instruction and whole-language instruction, as well as to give an understanding of how and why interventions are implemented in schools. From the literature reviewed, it is clear that a traditional curriculum is best suited for this study. Given that this study is especially concerned with repair systems used to remedy reading underperformance, the differences between progressive and traditional

education becomes significant. More specifically, the methods of reading instruction of the two latter education theories, i.e. phonics instruction and whole-language instruction, dictates that an international school, wherein a traditional curriculum is implemented, be considered as a location for this study.

Now that the current literature regarding individual components of the research question has been presented, the following chapters give an explanation of how the research question was explored within this study. The components of reading development; pedagogically-engaged time; interrupted students and curriculum will all be seen throughout the design, methodology, findings, results and conclusions of this study.

University of Cape Town

Chapter III: Research Design and Methodology

3.1 Introduction

Research question:

The main research question of this study is as follows:

Is reading development influenced by the increase of pedagogically-engaged time amongst interrupted students within a particular curriculum?

Chapter goals and study outline:

In order to test the effectiveness of pedagogically-engaged time within a traditional curriculum, a case study was conducted on a small group of fourth grade students at the American International School of Cape Town in the northern-hemisphere based school year 2006-2007. These students were interrupted in their educational background, and all students had recently entered AISCT half-way through the academic school year, in January 2007. This chapter seeks to present the research design and methodology employed in conducting this study.

The chapter will discuss the methodology and reasoning for the design of the study. The purpose of this study was to determine reading level growth amongst students with an interrupted educational background and to suggest some reasons for the growth. In order to accomplish this goal, students with an interrupted educational background participated in the Reading Progress Study. The Reading Progress Study also incorporated a control group that was comprised of students with an uninterrupted educational background.

Within this study, all students were tested to determine their initial reading level using the Developmental Reading Assessment. Over the course of the ensuing six months, the amount of pedagogically-engaged time each student received from formal interventions at school, as well as independent reading at home, were tracked and recorded. At the end of the six months, the students were again tested using the Developmental Reading Assessment to determine their final reading level.

Through the two reading tests reading level growth could be determined. Furthermore, the pedagogically-engaged time accumulated served as a means to

explain the context and possible reasons for reading level growth in students with an interrupted educational background.

Two international schools, one in South Africa and one in the United States of America, were tested to assess whether they had a progressive or traditional pedagogy. This was done by means of a school comparison assessment that will henceforth be called the School Comparison Study⁹. As a result, the Reading Progress Study took place at the American International School of Cape Town (AISCT). This school was chosen because it had a traditional pedagogy, as established by the School Comparison Study.

The results of the School Comparison Study showed that AISCT tended towards a traditional curriculum. This measure was important to establish because the literature in Chapter Two suggested that formal interventions are more likely to occur at a school that has a traditional curriculum basis.¹⁰ The establishment, therefore, of AISCT as a school that implemented a traditional curriculum allowed the study to take place at this school.

3.2 Research Design

3.2.1 Introduction

Within this section the design of this study will be outlined. In order to explain the rationale and specifics of the design, this section will be divided into several sections. The first section will specify the design classification, followed by a section outlining the research question of the study; this research question was the basis by which the design, variables and hypotheses were formulated. This is followed by a section detailing the Key Variables and Definitions used within the study. The final section will present Hypotheses.

⁹ The School Comparison Study can be found in Appendix A

¹⁰ The literature in Chapter Two suggested that interventions are more likely to be found in a traditional curriculum. However, a hybrid of imbedded progressivism in a basis of a traditional curriculum was found to be ideal for reading instruction.

3.2.2 Design Classification

The data within the Reading Progress Study was gathered through both numerical and textual data – creating a hybrid of data sources. The study was conducted amongst eleven students at a highly specified location – as the study parameters required that the location be an international school as well as a school that implemented a traditional curriculum. The data that was gathered incorporated: qualitative in the form of data from both parental questionnaires, previous school records and independent reading by means of home based activities; quantitative in the form of reading level assessments and total time from formal interventions (Babbie & Mouton, 2001). The parent questionnaires and previous school records were qualitative, whereas the Developmental Reading Assessment and accumulated time were quantitative.

The Reading Progress Study was specific due to the small number of participants, and the direct questioning of the parental questionnaire. The reading test used in determining cognitive growth within reading was designed to bring about exact reading levels. The parental questionnaire can be considered less controlled, as allowance for parental feelings, emotions and biases towards their own children were made. Within the Reading Progress Study, however, the level of control was high, as each student was tested within a stable and diagnostically controlled reading test of ability (Mouton, 2001).

The means to assess the suitability of a school to its traditional pedagogy was conducted through the School Comparison Study. The School Comparison Study was qualitative, and relied heavily on both textual and interviewing data. The textual data was gathered through numerous sources and several interviews that took place at both the American International School of Cape Town and the Washington International School.

The design of this study was planned as an exploratory study, with empirical research. The exploratory nature was derived from the small empirical study designed to measure cognitive growth in reading competence within a short period of time. Due to the small sample size of the empirical component and the relatively short period of time in which this study took place, the study can only be classified as exploratory, since there are no conclusive answers offered, but rather indicative and

suggestive trends derived from the data gathered (Babbie & Mouton, 2001; Mouton, 2001).

3.2.3 Main Research Question

The main research question is as follows:

Is reading development influenced by the increase of pedagogically-engaged time amongst interrupted students within a particular curriculum?

This main research question was an evaluative question that was designed to bring about understanding between the factors of international elementary schools, curriculum and the cognitive development of the interrupted student. This was done with the goal of determining reading level growth amongst students with an interrupted educational background, while tracking the formal and independent reading that each student received (pedagogically-engaged time).

3.2.4 Key variables and definitions

The definitions and rationale of the key variables used in this study will be given in this section. The key variables defined herein are: *traditional curriculum*, *progressive curriculum*, *interrupted student*, *uninterrupted student*, and *pedagogically-engaged time*. These key terms are used extensively throughout the study, thus an understanding of the definition for each term is important.¹¹

Traditional Curriculum and Progressive Curriculum:

Due to the fact that the exact definitions for what a ‘traditional’ curriculum and ‘progressive’ curriculum have not been formally established amongst educational researchers, it is difficult to give a short summary of how each will be defined. Part of this study seeks to determine the design features within each curriculum type. Rather, therefore, than offering an exact definition of a traditional curriculum and

¹¹ As some key definitions can be grouped together as comparatives, they will be explained together.

progressive curriculum, the design questions of this study will determine the tendencies towards one type of curriculum, thus creating a working definition in the form of a continuum. Section 2.2.2 and 2.2.3 of Chapter Two gave comment on the establishment of these design features, as well as providing a comparison between the two systems. This section showed that the vast majority of schools are not strictly traditional or progressive in their curriculum. Thus, the design questions below, and the benchmark answers for traditional and progressive curricula, provided a means by which a school was said to tend towards one curriculum type or the other. The sixteen design questions and the benchmark answers that were used to determine tendency towards curriculum type were taken from Chall (Chall, 2000).

Design question 1: What should be learned in school?
Design question 2: What should be emphasized- Product or Process?
Design question 3: Specific versus Integrated Content
Design question 4: What should the Curriculum be?
Design question 5: How Students are Perceived
Design question 6: Moral Development
Design question 7: Standards and Assessment
Design question 8: Attitudes towards Individual Differences
Design question 9: Optimum level of Difficulty for Learning
Design question 10: Grading/Report Card
Design question 11: Promotion
Design question 12: Attitude toward use of textbooks and other teaching materials
Design question 13: How Students difficulties are explained and treated
Design question 14: Discipline
Design question 15: What is the teacher's educational background?
Design question 16: Should schools focus on affect and motivation or knowledge and the intellect?

Table 1: Curriculum Design Questions

Due to the fact that each design questions had to be assessed individually based on the documentation gathered, only qualitative representation was determined. Quantifiable evidence was not able to be produced because the tendency of each design feature could only be determined from the evidence gathered. In an attempt to give quantifiable measurement to the qualitative evidence, numerical representation was used to identify overarching curriculum trends. This was done by the means of the Design Question Quantifier (DQQ).

As traditional curriculum and progressive can be viewed as opposite ends of a curriculum spectrum, the DQQ indicated the degree of tendency of each of the schools' curriculum with regard to each benchmark answer. The DQQ was applied to each of the benchmark answers in the following manner:

- A fully traditional benchmark answer was given 1 Point: the school met all of the points in the definition for a particular design feature
- A tendency towards a traditional benchmark answer was given 2 Points: the school primarily met all of the points in the definition for a particular design feature, but it did incorporate one or two aspects of a progressive definition
- Equally traditional and progressive benchmark answer was given 3 Points: the evidence from the school showed that the design feature equally implemented the definitions for both traditional and progressive
- A tendency towards a progressive benchmark answer was given 4 Points: the school primarily met all of the point sin the definition for a particular design feature, but it did incorporate one or two aspects of a traditional definition
- A fully progressive benchmark answer was given 5 Points: the school met all of the point sin the definition for a particular design feature

The speculative DQQ for a comparison of design questions within a given curriculum was as follows:

Scale Points:	Tendency:
1	Fully Traditional
2	Tendency towards traditional
3	Middle ground with aspects of both traditional and progressive
4	Tendency towards progressive
5	Fully Progressive

Table 2: Design Question Quantifier (DQQ)

The evidence from the school, including various school documents and interviews, were assessed to see how closely they matched the benchmark answers to each design question.¹² Those point totals were added to give an over all numerical value of tendency towards one curriculum type.

¹² An annotated explanation of each design question can be found in Appendix B "Annotated explanation of the School Comparison Study design questions".

Given the DQQ, a school that met all of the benchmark answers for a traditional curriculum would earn a score of 16 – 1 Point for each design feature multiplied by sixteen design features. A school that met all of the benchmark answers for a progressive curriculum would earn a score of 80 – 5 Points for each design feature multiplied by sixteen design questions. A total of points in between 16 and 80 would show either a tendency towards one curriculum type, or would show an equal balance between a traditional and progressive curriculum (48 Points).

Using these design questions, working definitions for “traditional” and “progressive” used throughout this study are as follows:

Definition of Traditional: A curriculum is traditional when measured against the sixteen individual design questions, the curriculum’s cumulative score shows a tendency towards the traditional aspect of the continuum (maximum of 47 points on the scale)

Definition of Progressive: A curriculum is progressive when measured against the sixteen individual design questions, the curriculum’s cumulative score shows a tendency towards the progressive aspect of the continuum (minimum of 49 on the scale)

Interrupted Students:

Interrupted Students, for the purposes of this study are defined based on the previous educational background of the student. To be within the defining parameters of an interrupted educational background, the students fulfilled the following requirement: spent less than two years at their current elementary institution.

The rationale behind this definition stems from the goals of the Reading Progress Study. The study sought to determine reading level growth amongst students with an interrupted educational background. All students, therefore, needed to be in the same grade level, and entering the school at the same time. This served as a control for the educational level and resources that each child was given. Since all participants entered the school at the same time and were in the same class, they were all given equal opportunity to improve in their reading level ability.

Definition of Interrupted Student: A student that spent less than two years at their current elementary institution

Uninterrupted Students:

Uninterrupted students matched the interrupted students in the fact that they were in the same class, but that they differed in one way – they had not transferred schools in the past two years.

Definition of Uninterrupted Student: A student that attended their current elementary institution for at least two full consecutive school years.

Pedagogically-engaged time:

Pedagogically-engaged time is the theoretical construct used to denote the specific time students spend engaging in learning, specifically reading, over and above the formal class lessons. While students engage in reading activities at home and at school, there is a difference in the formality and targeted nature of these reading activities.

At this juncture, it is important to distinguish the pedagogy employed in formal class lessons (stemming from a particular curriculum type) and what this study deems ‘interventions’. This distinction is made so that there is no confusion as to what is meant by ‘progressive pedagogy’ in formal class lessons and ‘interventions’.

The Reading Progress Study took place at AISCT, which used a basis of a traditional curriculum.¹³ As such, the instruction was targeted towards enabling all students to meet a particular standard. As established in the literature review, a traditional curriculum recognizes a standard to be met by all students; and therefore, as part of this study, specific pedagogical practices were put into place for individual students to allow them to meet those standards. This is the repair system concept of creating more time-on-task to cope with pacing as described by Bernstein (1990). It is these specific, individual, and targeted instructional practices that are deemed by this study as ‘interventions.’ The goal of these interventions was to make-up for lost time by *supplementing lessons* and *modifying work* to create **time-on-task**.

Interventions of this nature have their roots in progressive education, as they are individualistic. Individualization, however, taking place within a traditional curriculum was put into place because the traditional curriculum recognizes that there

¹³ This was established through the School Comparison Study, Appendix A.

is an underperformance to be remedied. If there was a basis of a progressive curriculum, there would not likely be recognition of underperformance, since the idea of ‘underperformance’ implies an objective standard against which all students are measured. This study, therefore, does not define all progressive pedagogy as ‘interventions’, but rather the construct of progressive pedagogy practices within a traditional curriculum base are viewed as ‘interventions’, as they create more time-on-task in the form of a repair system for underperformance. The traditional curriculum is supplemented in time and content by the interventions, thus creating a repair system for the underperforming students. Henceforth, for the purposes of this study, formal and targeted pedagogically-engaged time received by students at school to create time-on-task will be called ‘interventions’.

In contrast to the formal and targeted nature of interventions, home-based reading practices that result in pedagogically-engaged time will be termed ‘independent reading’. When discussing pedagogically-engaged time, therefore, a distinction between formal and targeted pedagogically-engaged time (interventions) and informal home-based pedagogically-engaged time (independent reading) will be made. The purposes in distinguishing these two types of pedagogically-engaged time will become apparent as the hypotheses are discussed in a later section.

Definition of Interventions: school based individualized activities that provide students with formal and targeted pedagogically-engaged time; such as:

- *one-on-one work with a teacher during school hours (taking place during non-instructional lesson periods)*
- *tutoring received outside of school hours*
- *ESL instruction received both in school and outside of school*
- *shortening of assignments or requirements within school assignments on both daily assignments in school and homework assignments completed outside of school (creating targeted time-on-task)¹⁴*

Definition of Independent reading: informal reading engagement with various texts that take place outside of formal schooling.

Pedagogically-engaged time is thus the independent variable in the study.

¹⁴ The shortening or modification of assignments allowed the students to focus on the activity at hand, creating targeted time-on-task. The specific use of these types of interventions will be further explained in each student profile, found in Chapter Four, Section 4.2

Reading Scores:

The reading scores, as determined through the Reading Progress Study, are the main source for numerical data within this study. This reading test was a demonstrative test aimed at measuring the cognitive development of each student given pedagogically-engaged time accumulated. The reading scores were determined by comparing scores of an initial reading test to those of a second reading test that took place six months later. The increase in reading ability between testing-one and testing-two serve as the means for determining cognitive growth. Reading scores, therefore, are the dependent variable within this study.

Definition of Reading Scores: The increase in reading level ability between the results of the initial reading assessment and results of the final reading assessment

3.2.5 Hypotheses

The following hypotheses, derived from exiting literature and studies, were formulated at the beginning of this study:

1. The design features of a traditional curriculum, rather than a progressive curriculum, are likely to facilitate the use of interventions for students with an interrupted educational background.
2. Reading level gains within the interrupted student group are expected to go beyond expected maturation and to be larger than the reading level gains within the uninterrupted student group.
3. The uninterrupted student group is expected to make maturational gains in reading level ability.
4. The cognitive gap between the interrupted student group and the uninterrupted student group at the time of the second testing will be smaller than the cognitive gap at the first testing.

The following is presented as an alternative hypothesis to the above:

5. Independent reading that takes place at home will have an effect on the cognitive development of both groups of students, causing the interrupted students to make reading gains and the uninterrupted students to make beyond expected maturation reading level gains.

Theory Design:

These hypotheses were gleaned from the existing cumulative body of knowledge in literature regarding interventions in a particular curriculum. Chapter Two provided an in-depth discussion of the current theories of interventions within traditional and progressive curricula. Therefore, a brief summary of how these theories influenced the hypotheses will be given in this section in order to explain the reasons for arriving at the above hypotheses.

Hypothesis One:

The first hypothesis, regarding the use of interventions within a traditional curriculum, was based on three main bodies of research: Kirschner et al (2006), Bernstein (1990) and Cunningham et al (2003). Kirschner et al (2006) and Cunningham et al (2003) published findings that interventions within a traditional curriculum will yield better results for student improvement than a progressive curriculum.

Bernstein (1990) explained that there are two ways in which a repair system can be put into place for students that have an interrupted educational background. A repair system either puts into place interventions to cope with the pacing, or it relaxes the pacing rules in order to allow the student to 'catch-up' time in acquiring knowledge to meet the sequencing set out by the curriculum. Cunningham et al (2003) reflected upon Bernstein's explanation of the need for a repair system. She states that some students need an extended amount of time to 'catch-up' to their peers. Cunningham et al (2003) referred predominantly to the use of extended-day programs as a method of implementing interventions. In a traditional curriculum, the sequencing rules are well established and set out by the curriculum (Bernstein, 1975). A student, therefore, entering into a traditional curriculum (and not a progressive curriculum) with an interrupted background will benefit from the repair systems, that either put into place interventions and/or relaxing the pacing rules.

Hypotheses Two, Three, and Four:

The hypotheses two, three and four were also based on the work of Bernstein (1990), Kirschner et al (2006) and Cunningham et al (2003). These authors contended that when a repair system that provided more time either in the form of a relaxed pacing system or in the form of interventions, students would be able to fill the underperformance gaps in their education that were missing due to an interrupted educational background.

Bernstein (1990), Kirschner et al (2006) and Cunningham et al (2003) gave their reasoning for interventions in general term and without reference to any particular subject. Their theories can then be assumed to apply to any subject in which students with an interrupted background are facing academic difficulties. Thus, when this study was created, reading tests were used as a basis for determining if intervention would make a difference in enabling the students to ‘catch-up’ to the cognitive development of their peers.

Hypothesis Five:

The fifth hypothesis was derived from Cunningham’s et al work (Cunningham & Allington, 2003) regarding independent reading. According to Cunningham et al (2003), independent reading can have a large impact upon cognitive development. The fifth hypothesis, therefore, was created as an alternate means of determining how the research data could be interpreted. If the above hypotheses are incorrect, it could stand to reason that the impact of the independent reading was initially overlooked, and thus needs to be incorporated into the final analysis of the data.

3.3 Sample Design and Sampling Methods

In order to test the effectiveness of pedagogically-engaged time within a traditional curriculum, a case study was conducted on a small group of fourth grade students. Before this study could be conducted, however, a school that implemented a traditional curriculum needed to be determined. Determining the location of the Reading Progress Study came as a result of the School Comparison Study. This

section will present the Sample Design and Sampling Methods first for the School Comparison Study and then for the Reading Progress Study.

3.3.1 School Comparison Study

The American International School of Cape Town (AISCT) and the Washington International School (WIS) were chosen as two possible locations for the Reading Progress Study. The comparison of the two schools' curricula had the ultimate goal of establishing which school tended towards a more traditional curriculum and thus would be the location of the Reading Progress Study. Without an establishment of curriculum type, the selection of a school would have been haphazard. As suggested in the literature review, interventions are more likely to be found within schools using a traditional curriculum – therefore, this study sought to first find a school that used a traditional curriculum before investigating the effects of interventions amongst transitory students.

In order to accomplish this goal, sixteen individual design questions as established by Chall (2000), were used as a means of measurement. To conduct the comparative study using these sixteen design questions, the Design Question Quantifier (DQQ) was created. The DQQ gives speculative numerical representation to how closely a school's curriculum matches each specific design question benchmark answer.

The measurement strategy employed in this section of the study utilized the sixteen design questions as key variables, and further substantiated the individual design questions as evidence for overarching curriculum tendencies. This method of measurement was able to determine the curriculum tendencies of the two curricula being compared in order to give backing for the Reading Progress Study stemming from the School Comparison Study. The results of the School Comparison Study determined that the American International School of Cape Town tended strongly towards a traditional curriculum, and thus, was the location of the Reading Progress Study.¹⁵

¹⁵ As the entirety of the School Comparison Study goes beyond the scope of this chapter, Appendix A includes the full details and explanation of the School Comparison Study. All Research Design and Methodology relating to the School Comparison Study can be found in Appendix A.

3.3.2 Reading Progress Study

A group of five interrupted students from the fourth grade class at the American International School of Cape Town in the school year 2006-2007 were chosen for this study. These students were interrupted in their educational background, and all of them had recently entered AISCT half-way through the academic school year, January 2007.

The reason why students in a *fourth* grade class were chosen for this study was due to the findings of Chall (1967). She noted that reading research beyond third grade was rare because the phonemic developmental process typically ends in third grade. Beyond third grade, a student gains a tremendous amount of reading strategies regarding comprehension and analytical abilities, but the process of “learning to read” is generally concluded at the end of third grade (Chall, 1967). Furthermore, because there is little research beyond third grade reading development, this study sought to shed light on the somewhat under-researched area of reading development in fourth grade and beyond.

The reason for choosing only *five students* was due to the size of the classes at AISCT. AISCT’s class size was capped at eighteen students for first grade through third grade, and twenty students for fourth grade through sixth grade. The number, therefore, of transitory students in any one class could range from one or two, to as many as seven or more. In the school year 2006-2007, the fourth grade class began the school year with only 11 students. In January 2007, the class experienced an influx of students, increasing the class roster to 18 students. This was the largest group of students (seven) in any one class that received new, transient students that fit the parameters of this study. Of these seven students, one student was only staying at AISCT for one term, and thus was not able to participate for the duration of the study, and one student declined permission to take part in the study. Thus, five students from this fourth grade class were able to participate in the study. The above summarized:

- Seven (7) possible participants
- Minus one (1) student short term at the school, thus not viable for study duration
- Minus one (1) student declined permission to take part in the study
- Equals five (5) students of interrupted background took part in the study

The contrasting group, or control group, against which the interrupted students were compared were the uninterrupted students. The control group was selected from students that fulfilled the definition of uninterrupted students¹⁶ at AISCT – they had attended their current elementary institution, AISCT, for at least two consecutive school years. Of the eleven (11) original students that began the school year in August 2006 in fourth grade, five (5) of the students met the definition of uninterrupted students. The other six (6) students had not been enrolled at AISCT long enough to be considered uninterrupted, and thus could not be included in this study. Out of the possible eleven (11) students, therefore, the sampling design and methods only allowed for six (6) students in this study.

The final participants were as follows:

- Five (5) interrupted students
- Five (5) uninterrupted students

3.4 Measurement and data collection

The measurement techniques, data collection and data processing used in this study are explained within this section. The goal of this section is to outline the reasoning for using reading as a means of determining cognitive growth gained by accumulated pedagogically-engaged time. After establishing the rationale for using reading tests the instruments used in the measurement of the key variables will be presented.

The data collection sections present the field work practices for collecting reading scores by use of the Developmental Reading Assessment. Furthermore, an explanation of the data collection for the pedagogically-engaged time, both formal and informal, is explained. The section closes with a presentation of the data processing methods.

¹⁶ See Section 3.2.4 for the rationale for this definition.

3.4.1 Measurement

3.4.1.1 Reading competency as a measure of cognitive growth

Based upon the curriculum in use, the means by which reading is taught differs greatly between individual international elementary schools, yet the intended outcome for reading remain constant – to have the students read at grade-level ability with strong reading skills such as comprehension, deductive reasoning, predicting and analytical reasoning. Unlike other core subjects, the expected level and competency of a student is fairly standard by a particular grade across international elementary schools. Core subjects such as social sciences and hard sciences incorporate many different units of study, therefore the normative ‘grade-level competency’ cannot be measured across international elementary schools. Reading, however, does have a fairly standard measurement of grade-level competency, allowing for comparison across different international elementary schools.

The goal of the Reading Progress Study was to determine the effectiveness of interventions upon cognitive growth. For the purposes of this study, reading competence was used as a determiner of cognitive growth. Although other subjects, such as mathematics, could have been used as a determiner of cognitive growth, the measurement of reading-level growth was chosen since it is the only subject in which there is a standard test to determine ability in reference to grade level.

Moreover, as this study sought to determine not only the pedagogically-engaged time in school, but also at home, a subject that was practiced at home needed to be found. Reading has been shown to occur more often in homes than other subjects such as science and mathematics (Van der Berg & Berger, 2004). The practice of reading at home is common; therefore, the tracking of pedagogically-engaged reading time at home could be done. Having chosen another subject, it would have been likely that there would have been little to no pedagogically-engaged time occurring at home. Thus, the home-school connection could not have been as easily established using another subject area. Reading became the most fitting subject for displaying the effects both of independent reading and interventions – henceforth, fitting the parameters of this study.

3.4.1.2 Instruments of measurement

Measurement of reading level development: Developmental Reading Assessment:

The Developmental Reading Assessment (DRA) test was field tested and successfully tested in more than 300,000 schools world-wide (<http://studata.sandi.net/research/DRA/index.asp>, Retrieved 11 July 2007). The DRA is currently in its second edition and was the assessment used to determine reading levels amongst participants. The DRA is primarily concerned with “helping teachers identify student’s strength and drive effective instruction. The DRA helps teachers pinpoint students’ strengths and reading abilities in a one-on-one conference” (http://plgcatalog.pearson.com/program_multiple.cfm?site_id=2&program_id=200&searchType=Title&searchTerm=dra, retrieved 11 Jul. 07). The assessment is concerned with assessing book and print awareness, phonemic awareness, graphophonic knowledge, oral reading, comprehension, and written response abilities (<http://www2.selu.edu/Academics/Education/TEC/dra.htm>, Retrieved 11 Jul. 07). DRA data is collected as often as a school wishes to determine current reading level of students. Students are determined to be significantly below grade level; below grade level; near grade level; at grade level; or above grade level based on their performance on the assessment, relative to their grade level status (<http://studata.sandi.net/research/DRA/index.asp>, Retrieved 11 July 2007).

DRA tests were determined as a reliable source for determining the grade level reading ability of students in this study (Williams, 2006). The results of the DRA are accurate and give teachers an understanding of the need for further instruction in specific reading areas. The Reading Progress Study, however, was not concerned with the effective instructional methods that are pinpointed by the test, but rather the data gathered in the test to determine grade level reading ability. Because the DRA is a widely used test, it was determined that this reading assessment would be beneficial and conducive to the type of data collection required in this study.

The DRA gives accurate data regarding the reading level of the students tested. Thus, this data was then used to analyze the reading level development of the students within the Reading Progress Study. The initial DRA results were compared against the second testing results, thus allowing for a numerical evaluation of the level of increase. Without the DRA, the reading levels of the students would have been

estimated, rather than solidly established. If there was a positive change in reading level of the students, the two DRA tests would identify this change, as well as provide a measurement for the degree of this change.

Measurement of pedagogically-engaged time:

In order to track the formal *interventions* at school, time was used as the means to measure interventions. As each intervention took place in school, the teacher reported on the amount of time for the intervention. Intervention time was calculated on the following activities¹⁷:

- one-on-one work with a teacher during school hours (taking place during break times non-instructional lesson periods)
- tutoring received outside of school hours
- ESL instruction received both in school and outside of school
- shortening of assignments or requirements within school assignments on both daily assignments in school and homework assignments completed outside of school (creating time-on-task)

The first three types of interventions could be calculated exactly. These were quantifiable periods of time that were recorded and calculated. The fourth intervention, modification of assignments to create time-on-task, was more difficult to calculate in quantifiable periods of time. This intervention resulted in a change of pacing and more focused work. The pacing change was difficult to calculate in exact time, as the student completed modified work in the same time frame as other students. As such, this type of intervention was noted, and an estimation of how often this type of intervention was used was reported. In order, therefore, to calculate the amount of time spent on formal interventions at school, exact time and estimated time were used as a measurement.

Independent reading was measured by parental estimation of independent reading time. These estimations were substantiated through the tracking of activities during a typical week for both the interrupted and uninterrupted students. The parents recorded the time spent in reading activities, thus creating a means by which independent reading was measured.¹⁸

¹⁷ As per the definition stated in section 3.2.4 of this chapter

¹⁸ A sample of the recording table the parents used to record independent reading can be found in Appendix F.

3.4.2 Data collection methods and fieldwork practices

3.4.2.1 Developmental Reading Assessment

Test outline

The Developmental Reading Assessment (DRA) Teacher Handbook and DVD of instructional methods explicitly instructed how to conduct a DRA test with all students and how to use the material as a means of assessing, or measuring, reading level ability. The examiner selected one book for the student to read as a part of the assessment. With the exception of one student, to be explained later in this section, all other participants' scores were measured in the following manner:

Assessing and measuring the student's reading level is aided by the provided "DRA Continuum".¹⁹ The continuum of assessment is divided into the following three main sections, and sub-sections:

- Reading Engagement
 - Wide Reading
 - Self-Assessment and Goal Setting
- Oral Reading Fluency
 - Expression
 - Phrasing
 - Rate
 - Accuracy
- Comprehension
 - Questioning and Predicting
 - Summary
 - Literal Comprehension
 - Interpretation
 - Reflection
 - Metacognitive Awareness

The student was rated within each of these areas. A total score for each main area was determined. Each of these scores was added together to determine the score achieved using that level text. Based on the Independent Range scores that were provided by the DRA, the final score was used to determine the reading level within a particular text level.

In order to assess and measure one of the low performing students, the text Level 2 was used. Due to the fact that a Level 2 student was categorized as an

¹⁹ A sample of the "DRA Continuum" can be found in Appendix H.

“emergent reader”, the process of determining and measuring reading level ability was different to the outline presented above. The measurement for reading ability at Level 2 includes three areas and sub-sections of measurement:

- Reading Engagement
 - Literacy Support at home
 - Favorite Book
 - Book-handling skills
- Oral Reading
 - Monitoring and Self-corrections
 - Use of Cues
 - Accuracy
- Printed Language Concepts
 - Directionality
 - One-to-one correspondence
 - Words and Letters

Given the specific nature of calculating reading level through the use of the Developmental Reading Assessment, this measurement technique is deemed to be accurate (http://plgcatalog.pearson.com/program_multiple.cfm?site_id=2&program_id=200&searchType=Title&searchTerm=dra, retrieved 11 Jul. 07).

Testing Procedures:

In March 2007 all of the students were tested using the Developmental Reading Assessment (DRA). This initial reading assessment was conducted in order to determine the initial reading level of each of the students. The reading level of the students was determined to be either below, on or above grade level. The calculated reading level at the initial testing served as a basis upon which to measure growth over the subsequent sixth months. The second reading assessment was given at the end of the first term of fifth grade, in October 2007. The second reading assessment was conducted in the exact same manner and using the same techniques and fieldwork practices as the initial test. The following four steps were used as the collection method for determining initial and final reading levels.

Step One:

Prior to meeting one-on-one with the students for testing, each student completed a “Student Reading Survey.”²⁰ This survey was a record of the students’ personal reflection on his or her individual reading views. This survey later informed where the student achieved within Reading Engagement.

Step Two:

Students were introduced to the book that was selected, based on observation of reading ability and classroom teacher recommendations.²¹ All observations and data gathered while administering the DRA was recorded on the “Teacher Observation Guide”.²² The students were read one sentence descriptor of the text he/she was about to read. This descriptor was also outlined on the “Teacher Observation Guide.” The students were directed to read a set portion of text aloud to the examiner.

As the students read the set portion of text, the examiner noted the amount of time the students took to orally read the text, as well as any miss-cues while reading. Miss-cues which counted as mistakes in reading the text included omission of words, adding in of words, repetition of words or phrases, and incorrect reading of a word. The examiner also observed oral reading behaviors such as fluency, expression and phrasing.

After the students completed the oral reading fluency section, the examiner determined the words-per-minute and percent accuracy of oral reading. Again, a chart was provided on the “Teacher Observation Guide” that outlined words-per-minute and percent of accuracy that was appropriate for that level of text. If students scored below the acceptable reading level, the examiner stopped the assessment and conducted the assessment again with a lower level text. If the students’ words-per-minute and percent of accuracy fell in an area that was appropriate for the text, the

²⁰ A sample of the “Student Reading Survey” is included in Appendix H.

²¹ The DRA Teacher Handbook provided a “Teacher Observation Guide” for each text within the program.

²² A sample of the “Teacher Observation Guide” for the Level text 40 non-fiction book *The Amazing Octopus* is included in Appendix H.

students then completed the “Student Booklet” that corresponds to the level text that was read.²³

Step Three:

In the next section of the assessment, the students were told to make predictions about what the remainder of the book will include. The students then read the remainder of the book to themselves.

Step Four:

Once the remainder of the book was read, the students completed a summary of the text, a literal comprehension (including interpretation and reflection), and a metacognitive awareness section. The “Student Booklet” was completed without examiner assistance. The whole assessment took approximately 40-50 minutes to complete. Once the students had completed the “Student Booklet,” the students’ participation in the assessment was finished.

The only exception to the above testing methods was one student who had very low reading abilities. This student, to be discussed further in Chapter Four’s report on results, was not able to function at grade level. He was initially assessed using a Level 2 text – an emergent reading level. Due to the fact that this testing method differed from the other students that were tested, the methods for data collection regarding his reading level will be explained. All of the examiner’s records for the DRA are recorded on the “Teacher Booklet” for the individual level text.²⁴ This particular reading assessment took place in three steps:

Step One

The Reading Engagement was recorded by the examiner by asking the two questions to the student. 1. Who reads with you or to you at home? 2. Tell me about

²³ A sample of the “Student Booklet” for the Level text 40 non-fiction book *The Amazing Octopus* is included in Appendix H.

²⁴ A sample of the “Teacher Observation Guide” for the Level text 2 non-fiction book *Bath Time* is included in the Appendix H.

one of your favorite books. The student's answers were then recorded by the examiner.

Step Two

In the Oral Reading section, a summary of the book was given by the examiner while the examiner and the student browsed the book together.

Step Three

The examiner read the first page orally, and pointed to each word while reading out-loud. The student was asked to read the next page orally, and to point to each word as he read it out-loud. The remainder of the book was read out-loud in this same manner, with the examiner reading aloud one page and pointing to words, while the student read out-loud the next page with the goal of pointing to words as he read. The reading test concluded when the student and examiner finished reading the text together, and the examiner accurately recorded the miss-cues the student made while reading the text.

3.4.2.2 Interventions

All of the students with an interrupted educational background were tracked for the use of interventions which were implemented between March 2007 and October 2007. The students received interventions designed to allow them to acquire the knowledge that was missed due to their interrupted educational background. The interventions that were tracked were calculated in terms of actual minutes of intervention. If a student, therefore, received 30 minutes of English-as-a-Second-Language (ESL) intervention each week, the numbers of minutes per week were multiplied by the number of weeks to determine the total amount of time the student received for the ESL intervention.

Interventions were those activities that allowed the student to make-up and have additional time-on-task over and above their normal school hours or provided focused, targeted pedagogical time. These interventions included:

- one-on-one work with a teacher during school hours
- tutoring received outside of school hours
- English as a Second Language instruction

- shortening of assignments or requirements on school assignments

For the individual students that received ESL lessons, the ESL teacher was consulted on the number of lessons per week, and the duration of each lesson. The minutes per week received was then multiplied by the number of weeks between the first DRA testing and the final DRA testing.

In order to determine all other interventions listed above, the classroom teacher was asked to track and calculate the frequency, type and usage of interventions for each student. This tracking was completed by both the fourth grade teacher when the participants were in fourth grade from March through June 2007, and then continued by the fifth grade teacher in August through October 2007.

3.4.2.3 Independent reading

The independent reading was recorded by the parents of the student participants. Each parent was asked to observe and record the reading behaviors and interactions throughout a typical school week on an observational form. As part of this observation, the parents recorded the various factors relating to reading, time spent in reading engagement, and commented on the typical reading patterns of their child.²⁵ The reading factors recorded included:

- parental guidance on homework or other school related work involving reading;
- voluntary independent reading
- involuntary independent reading
- reading to siblings
- level of reading material
- perceived enjoyment of reading
- purchasing of books
- frequenting of bookstore

From these observation forms, the total accumulated time spent in independent reading was calculated in hours for each participant.

²⁵ A copy of the parent observation form can be found in Appendix F

3.4.3 Data capturing and data processing

The data within the Student Reading Study included three main forms –school records, numerically based observations and questionnaires by parents and numerical data gathered in the Developmental Reading Assessments. In order to analyze and process this data, the “Comparison of student profiles from the Reading Progress Study”²⁶ was created.

Comparison of student profiles from the Reading Progress Study:

“Comparison of student profiles from the Reading Progress Study” is a document displaying in bullet form the summative information gleaned from the school records and questionnaires given to parents regarding their child’s reading habits. Due to the fact that only eleven students participated in this study, an individual profile for each student was created. This was used to find trends in reading level development, as well as to provide data for conclusions to the main research questions.

Each individual profile in the “Comparison of student profiles from the Reading Progress Study” provides, at most, the following data and documentation:

- previous school(s) attended and dates of attendance
- results from previous report cards/cumulative assessments
- notices of conditional enrollment at AISCT
- language spoken at home
- English language proficiency
- interventions received at school
- estimated amount of time spend reading at home
- other activities than reading that often take place at home
- parental requirements for independent reading at home
- types of books available at home
- frequency with which ‘home library’ books are accessed
- quotes from parents regarding reading enjoyment

These individual Profiles of Readers provide a snap-shot approach to displaying the relevant information gathered from the raw data.

²⁶ Appendix E

Reading Progress Study Summary:

	Name	1 st Testing Level	2 nd Testing Level	Increase	Hours spent reading each week at home	Hours spent in intervention each week
Uninterrupted Students	Tiffany	50-2	60-2	1 whole grade level	1-2 hours	-----
	Len	40-1	50-1	1 whole grade level	+/- 2 hours	-----
	Ivan	50-2	70-2	2 whole grade levels	7-8 hours	-----
	Geoff	50-2	70-2	2 whole grade levels	7-8 hours	-----
	Vince	40-2	50-1	2/3 of a grade level	45 min- 1 hour	-----
Interrupted Students	Henry	40-1	50-2	1 1/3 grade levels	2-3 hours	1.5 hours
	Jenny	40-1	50-2	1 1/3 grade levels	2-3 hours	1.5 hours
	Jason	38-2	40-2	1 whole grade level	3-4 hours	4 hours

Table 3 Reading Progress Study Summary

The Reading Progress Study Summary chart illustrates, in numerical form, the results of the initial and final Developmental Reading Assessments, the intervention hours and the independent reading time at home. The uninterrupted students and interrupted students are recorded separately on the same table.

The results of the first and second test were taken directly from the raw test scores determined from the DRA results. The increase between the two tests was determined using the Developmental Reading Assessment Incremental Explanation.²⁷ The second to last column shows the estimated time that each student spent reading at home in a typical week and the final column records the amount of intervention time during a typical week at school. The inclusion of the last two columns allows for a visual representation of the pedagogically-engaged time. The initial test, therefore, and the second test, the increase, the independent reading, and the interventions are displayed in Table 3.

²⁷ Table 5

The effects of interventions on reading level increase were formulated, using both the textual Comparison of students' profiles from the Reading Progress Study²⁸ and the Reading Progress Study Summary²⁹. These two displays allowed for the raw data to be summarized, edited and analyzed in an easy to read format; therefore allowing for further assessment and analysis in Chapters Four and Five.

3.5 Data Analysis

This section will present the analysis, rationale and procedures within the data analysis process. The means by which the data was analyzed is discussed through these three sections, but an interpretation of the data will not be given. The analysis and interpretation of the data is offered in the following two chapters of this study. The primary goal of this section is to establish the means by which the analysis took place, the rationale for those procedures, and the procedures themselves.

3.5.1 Analysis

The data within the Reading Progress Study took the form of both qualitative and quantitative data material. The former comprised of comments and answers to questions on the parent questionnaires, while the latter was made up of observations of time and the numerical results of the Developmental Reading Assessment.

Parent Questionnaire:

The qualitative data from the parent reading questionnaire was edited into the Comparison of student profiles from the Reading Progress Study³⁰ document. This document allowed for a summative approach to understanding the different facets of reading that possibly factored into individual student reading progress. The small number of participants in this study allowed for an in-depth understanding of each participant's educational background, initial reading level, interventions, independent reading, and final reading level at the end of the study. The qualitative data enabled

²⁸ Appendix E

²⁹ Table 3

³⁰ Appendix E

an analysis of the varying factors that played a role in the individual cognitive reading development for each student.

Quantitative Data:

The quantitative data was drawn from the parent observations of the amount of time the participants spent in independent reading, teacher calculations of intervention time and the two DRA tests. The first quantitative data in the form of time allowed for a calculation of the number of hours that each participant spent in independent reading. The time calculated from the reading interventions allowed for a conceptualization in numerical form of the formal pedagogically-engaged time. The DRA results provided an indication of how the total pedagogically-engaged time, including both home and school effected reading level development over the six month period.

The three calculations outlined above, along with the Profile of Readers, allowed for the summative Reading Progress Study Summary. This document presents all of the information gathered within the Reading Progress Study in one body as to glean trends in the data, and provided a possible means of reaching a conclusion to the main research question.

The results of the data analysis are presented and scrutinized further in Chapters Four and Five.

3.5.2 Procedures for assigning reading levels

As outlined in previous section, the data was captured into the “Comparison of student profiles from the Reading Progress Study” through a combination of transcription from parental comments and observations, as well as an inclusion of the information found in school records. The methodology and analyzing of the data from the DRA followed a different procedure. The method by which a DRA test was administered is outlined in section 3.4.2.1. In order to understand how the DRA tests

were scored to determine a reading level in both the initial and final reading test, a description of the analytical procedures will now be presented.

Once the DRA was completed, the reading levels were determined. Each book within the DRA collection was given a numerical representation by the program creators to correlate to a grade level reading ability:

- Level 30 correlated to beginning third grade
- Level 36 correlated to middle third grade
- Level 38 correlated to end of third grade
- Level 40 correlated to fourth grade
- Level 50 correlated to fifth grade
- Level 60 correlated to sixth grade
- Level 70 correlated to seventh grade

Within each reading level, the student was considered to be performing at either the Instructional, Independent or Advanced level with regards to a particular text. As a result, the precise assessment of reading level of the student was achieved, for example: reading Level 38, Independent Range. This example would show that the student was reading at the end of third grade reading level, and could function at an Independent status in reading this level text.

Assessment and measurement of the students' reading level was aided by the provision of a "DRA Continuum".³¹ The continuum was sectioned into three main areas of assessment:

- Reading Engagement (measured using the Student Reading Survey);
- Oral Reading Fluency (measured using the results from the oral reading section from the selected text);
- Comprehension (measured using the written responses of the student from the "Student Booklet").

The students were rated within each of these areas. A total score for each main area (Reading Engagement, Oral Reading Fluency, and Comprehension) was determined. Each of these scores was added together to determine the score achieved using that level text. Based on the Independent Range scores provided by the DRA, this final score was used to determine the reading level within a particular text level.

For example, "The Amazing Octopus," a level 40 text, shows an Independent Range of 6-7 points for Reading Engagement, 11-14 points for Oral Reading Fluency,

³¹ A sample of the "DRA Continuum" can be found in the "Teacher Observation Guide" in Appendix H

and 17-22 points for Comprehension. If a student's score was within this Independent Range, the student was considered to be reading within the Independent Range at Level 40 (fourth grade). This would be a grade level appropriate reading level. As for the Independent Range, the score for the Instructional and Advanced ranges are also provided by the DRA on the DRA Continuum. Through this procedure, the analysis of reading level could be established and main trends could be drawn from the data. A comprehensive presentation of the results to the Reading Progress Study is given in Chapter Four, followed by the analysis of the results of the in Chapter Five.

3.5.3 Consent and confidentiality

Due to the nature of using underage students in this section of the study, there were a number of measures taken to ensure that parental consent was given and confidentiality kept. All letters were approved by the principal of AISCT, and included the school's support and permission for this study to take place. The confidentiality and ethical considerations were taken into account while conducting this study as to ensure that all data gathered within this study did not breach ethical norms. All students, parents and the principal of the school were aware and in agreement with the procedures in place for this study. In addition to the considerations outlined herein, and to respect the confidentiality of all participants, participant names and school names (other than AISCT and WIS) have been changed or omitted from this study.

Below is an explanation of the procedures undertaken to gain consent from the interrupted and uninterrupted groups of students.

Interrupted students:

A letter granting informed consent was composed and sent home with six (6) viable interrupted participants in April 2007.³² The letter granting permission to have the children participate in this case study outlined the following:

- reasons for the study
- what the reading tests would require of the child

³² A sample letter that was sent home to parents granting permission to have their son/daughter participate in this case study can be found in the Appendix F.

- amount of time commitment of the child and parent
- granting of permission to access school documents from school records
- how the reading testing was conducted

Of the six (6) letters requesting permission to participate in this case study, five of the permission letters were returned granting permission for the children to participate in the study. Five (5) interrupted students, therefore, gave consent to take part in this study.

Uninterrupted students:

There were five (5) students in the fourth grade class that met the criteria for being uninterrupted students. Letters to each of these students' parents were sent home to obtain permission for the students to participate in the study. The parents were made aware that agreement to participate in the study meant the inclusion of the following:

- initial DRA testing data from March 2007
- the second DRA testing
- school records
- parent surveys

Five (5) uninterrupted students, therefore, gave consent to take part in this study.

3.6 Strengths and Limitations

3.6.1 Strengths

The Reading Progress Study success relied heavily upon a small number of student participants. Due to the fact that there were a small number of participants in the study, each individual case was scrutinized and researched in its own right. Where questions arose, the parents of individual participants were contacted and probed to determine the exact circumstances of each student involved in the study. Within this context, a collaborative and participatory relationship grew between the parents and the researcher. The parents were able to give in-depth answers with a high level of trust – thus resulting in the credibility of qualitative data gleaned from their questionnaire answers. Furthermore, a small exploratory study such as this allowed for flexibility and further probing as necessary. The small group of students,

therefore, allowed for an in-depth understanding of the practices both at home and at school.

3.6.2 Limitations

Despite the efforts made to reduce and minimize any foreseeable areas of error in designing research methodology, data capturing, and data analysis, there are certain areas that fell short of desired expectations. This section points out the limitations and sources of error within this study. There are four limitations that have been determined:

- the few number of students in the study (Limitation One)
- the short time period in which the study took place (Limitation Two)
- the means of measuring the interventions that the interrupted students received (Limitation Three)
- the methods of capturing accurate data from home-based questionnaires (Limitation Four)

Limitation One: the few number of students in the study

There were few student participants included within the Reading Progress Study. The interrupted students began as five students and dwindled to three students, due to attrition rates; the uninterrupted students included five students. The small number of participants can be explained by the definitions and limits placed on students that qualify as interrupted and uninterrupted, and the fact that the study was conducted at a small international school. Ideally, there would have been many more students in the study in order to create more data, and thus firmer trends in the results. The limitations of working with a small international school, coupled with the specific definitions of students with an interrupted and uninterrupted background, and particularly the attrition rate finally determined the number of participants in the study.

Limitation Two: the short time period in which the study took place

The second unavoidable constraint and shortcoming was the fact that the Reading Progress Study took place over a relatively short period of time. The first

testing took place in March 2007 and the second testing took place six months later in October 2007. Given the constraints of the researcher's time and resources, the six months between testing dates was the greatest amount of time possible. An entire year of tracking pedagogically-engaged time in order to assess the cognitive growth within a full school year would have been ideal. Given the time constraints of the study, however, and the difficulty of a northern-hemisphere school schedule operating in the southern-hemisphere, this was not possible. The study, therefore, took place over six months, spanning the last part of the students fourth grade year and the first part of the students fifth grade year. This limitation did not change the data gathered over the six months, but only shows that given a full year of tracking, the data might well have been more reliable and indicative.

Limitation Three: the means of measuring the interventions that the interrupted students received

The third limitation, and a possible source of error, was the means by which the measurement of the interventions amongst interrupted students was calculated. This had consequences in determining how much time was being added to their in-school education through the interventions. The source of this error stemmed from the fact that the teachers had to provide a list of the interventions that took place. This list was dependent on the teacher's memory and estimation of how often and for how long interventions were implemented in the classroom. Due to the fact that the interventions employed by teachers sometimes occurred on an 'as needed' basis to create time-on-task, and were sporadic, it would have been virtually impossible to set up a timing apparatus to determine the exact intervention time that was dedicated to each student while working in a busy classroom.

Interventions, such as ESL lessons and independent reading, were planned into the students' schedules. One intervention, however, the modification of assignments, created difficulty in calculating to exact number interventions hours received by each student. Fortunately, the types of interventions interrupted students received seems to have been accurately reported, therefore, it is known which interventions were used with which students. Additionally, the amount of time spent on interventions can be estimated, giving a good indicator of time. Although shortcomings are found within the calculation of exact amount of time for interventions during school, an estimate

can be determined, and thus this shortfall did not have detrimental affects on the results of the study. Furthermore, this area of error is random, as it is not biased to one or more students.

Limitation Four: the methods of capturing accurate data from parental questionnaires

The fourth limitation is the methods of capturing data regarding independent reading habits at home. Two questionnaires were given to the parents of the students in the interrupted group and one questionnaire was given to the parents of the students in the uninterrupted group. The focus of these questionnaires was quite narrow. In the first questionnaire, parents were asked to comment on certain aspects of their child's at-home reading habits.³³ The questionnaire was dependent on parental answers and an observation to their own child's reading habits.

Due to the fact that the questions were based on parental observation, there was a possibility that the parents were not accurate in their reporting. This error could have occurred in two areas:

- the parents guessed at the reading habits of their child due to ineffective observation
- the parents could have given answers that put their child in a positive light and gave answers that are expected, rather than accurate

Some researches have deemed questionnaires such as this 'dubious' (Anderson et al, 1988). The questions designed in this study were formulated with specific goals in mind. The amount of independent reading, the genre of books, access to books and interest in reading were all central to understanding reading trends and the effect of independent reading at home on reading development. Thus, the specific nature of the questions was dependent on the specific nature of the study. The study was not concerned with time the child would like to spend reading given a free afternoon, but rather how much time the child actually spent reading in a typical week.

Furthermore, the questionnaire tried to limit 'positive spins' on the reading habits of each student by asking the parents to observe and answer questions regarding their child's reading habits, rather than having students complete reading questionnaires. By having the parents observe and answer questions, the students did

³³ A copy of these parent questionnaires can be found in the Appendix F

not feel that they had to give the ‘right’ answers or amount of time spent reading to make themselves look good, causing a ‘social desirability effect’. Although it is possible that the parents did try to give the socially desirable answers, it is less likely than if the students had reported on their own reading habits.

The parents within this study all proved to be highly attuned to their child’s reading habits, as they were able to give specifics (such as titles and authors of books), rather than general answers. Additionally, the parents did not need to be trained to answer the questionnaire, whereas the students would have needed explicit instructions in order to fully understand what they were to observe in their personal reading habits so that accurate observations could be recorded. Although parental observations and answers to questionnaires may not have been completely devoid of error, it can be presumed that the parents showed a relatively accurate estimate of student reading habits at home.

3.6.3 Minimization of Error

The questionnaires that were given to the parents of the students participating in the Reading Progress Study were designed with the goal of minimizing data processing error. The design of the questionnaires kept in mind the specific goal of determining reading habits at home. All of the questions were designed to elicit specific information from the parents. The design of the questionnaires fulfilled the deliberate function of allowing for a glimpse into the reading habits and reading structure within each individual student’s home. Therefore when this specific information was edited into the Profile of Readers, specific statements from the parents and the information gathered from the questionnaires were directly transcribed into the individual Profiles. One of the questionnaires asked parents to track the reading habits of their child for one week, and to indicate if this was an accurate reflection of a typical reading week for their child. The accumulated time was calculated and reported as an estimation of the average amount of time each student spends reading in a typical week. This was a straight calculation which was also included in the Comparison of student profiles from the Reading Progress Study³⁴.

³⁴ Appendix E

Given the fact that school documentation and parental questionnaires were used as the primary sources of gathering data for the Reading Progress Study, it is important to note the efforts made in minimizing post-coding error. All of the questions asked, both in the interviews and the questionnaires, were specifically designed to bring about exact answers with little need for interpretation given the specific nature of the answers.

On the questionnaires to parents, there was a chance that social desirability effects could have played a function in the creation of parental answers, and thus effected interpretation of the answers to those questions. The parents were, however, explicitly informed that their child's participation in the study had no bearing on their school records, or on their performance in school. Therefore, there was no pressure on the parents to provide the 'right' answers to benefit their child. There were few open-ended questions that required the researchers to formulate interpretation from answers provided by the parents. Where the interpretation of the researcher was necessary, the answers to the open-ended questions were also backed with specific school documentation.

The use of questionnaires and school documentation does leave the possibility for negative post-coding effects in data processing. Given the specific nature of the methodology employed in the creation of the questionnaires, these negative effects were minimized as much as possible.

3.7 Conclusions

Throughout this chapter the research design and methodology employed as been presented. The goals of this chapter were to present the main research question and to discuss the procedures implemented to answer the question. A small student population of interrupted students and uninterrupted students were tested for their initial reading level and final reading level. Between the two testing dates, the students were tracked for the interventions received in school, as well as the independent reading that occurred at home. As a result of the School Comparison Study, this Reading Progress Study took place at the American International School of Cape Town because this school implemented a traditional curriculum. Having established the design of this study, the following two chapters will give a presentation, analysis and discussion of the results from the Reading Progress Study.

Chapter IV: Analysis of Student Profiles

4.1 Introduction

In the previous chapter the methodology and the design features of this study were discussed and explained. These design features were formulated with the purpose of answering the main research question: *Is reading development influenced by the increase of interventions amongst interrupted students within a particular curriculum?*

Having established the methods by which the American International School of Cape Town was identified and deemed traditional, and the means by which the Reading Progress Study was conducted, this chapter seeks to describe the results of the study.

The individual profiles of the students used in the Reading Progress Study will be presented. First, the profiles and backgrounds of the students with an interrupted educational background will be given, and then the profiles and backgrounds of the students with uninterrupted educational backgrounds will be presented.

4.2 Profiles of Individual Students

Within the Reading Progress Study, ten (10) students from AISCT were tested and compared to track reading level development as a means to assess cognitive development in reading competence. Five (5) students with an interrupted educational background were tested. Furthermore, five (5) uninterrupted students were chosen as a comparative to the interrupted students. This study aimed to assess the connection between a traditional curriculum, interventions and the reading development of students with an interrupted educational background.

In order to make conclusions and recommendations stemming from the research question, it was important to understand the educational background of each of these students. All of the students were three-fourths of the way through fourth grade during the initial testing. During the second testing, the students had progressed to fifth grade, and had just completed the first quarter of the school year. Therefore, there was just over half a school year between the first and the second testing.

What follows are individual profiles of each of the ten students within the Reading Progress Study. Educational backgrounds, enrollment qualifications, and individual differences will be highlighted. The interrupted students' background will be presented first, followed by the background of the uninterrupted students.

4.2.1 Interrupted Students

Henry:

Henry transferred to AISCT from an international school in the Philippines. He was approximately nine years-old at the time of the initial testing. Both of his parents were English speaking American citizens. Henry spent two years at the international school in the Philippines, completing both second and third grade, and the first semester of fourth grade. Previous to attending that international school, Henry completed kindergarten and first grade in the United States at a public school. School records from his previous school in the Philippines showed Henry to be competent in his reading development, as Henry was considered to be reading at grade level.

As will be explained shortly, Henry's reading level at the time of the initial testing was just below grade level. Due to the fact that he was only slightly behind grade level reading ability, the reading interventions Henry received were relatively small. Henry was provided with individual guidance in choosing independent reading books that were appropriate to his reading level. These independent reading books were chosen on the basis of Henry's own interest in the subject matter, but also on his current reading level. At his own request Henry was also given guidance on reading comprehension quizzes. During these times, Henry was provided with the page number or paragraph in the book in order to find the appropriate answer. Due to the fact that he was directed to the passage, Henry was considered to have received a reading intervention. Through this intervention he was able to concentrate on the answer, rather than spending time re-reading and recalling exactly where the passage was in the book. Although these interventions were not onerous, they did provide Henry with flexibility and growth in cognitive development through interventions. All together, this provided Henry with approximately 1.5 hours of formal reading intervention time per week.

The results of the two parent surveys conducted between the first and second testing revealed that Henry was actively engaged in reading at home. Henry's parents did not require him to read at home, but rather encouraged him to do so when he had time. At the beginning of this study, Henry was reading with one parent nightly before going to sleep. His parents reported that upon entering fifth grade, his reading habits changed. Henry's time spent reading each week increased to two to three hours each week. Henry began reading more independently, and he read to his younger sister each night. As his parents stated, "He is picking more challenging books that are above grade level and he is excited to discuss his books and retell us the stories. He even reads to us the passages he finds entertaining. This year (fifth grade) he became hooked on books!" Henry's parents reported that their home was full of all types of books: fiction, non-fiction, almanacs, dictionary, travel, reference, historical, children's literature. All of the books were on open book shelves and were easily accessible. "We re-stock his bookshelf often – two new books per month at least. He likes to go to the bookstore and pick his own books. Unless it is for a school project, he doesn't usually approach the 'library' of books – just his own bookshelf." Henry only rarely sought out the family library books for his own edification.

In order to determine Henry's reading level, he was assessed with the Level 40 text, "The Amazing Octopus." His initial reading level was 40-1, Instructional at a fourth grade level. At the end of fourth grade, students should be achieving 40-2, showing that Henry was slightly behind grade level achievement.

For the second testing, Henry was again tested using a grade level text. As Henry had progressed to fifth grade at the time of the second testing, he was assessed using the grade-level text "Friends in America." Henry was successful using this text, and his results show that he was able to achieve within the Independent range: 50-2. Therefore, Henry was able to show a growth from 40-1 at the initial testing, to that of 50-2 at the second testing. Henry made a 1 1/3 grade level reading increase from the initial to the final testing.

Jenny:

Jenny transferred to AISCT from a private preparatory school in Cape Town, South Africa. She was approximately nine years-old at the beginning of the study, and both of her parents were English speaking South Africans. Jenny attended the private preparatory school in Cape Town from beginning formal schooling through third grade. Due to the fact that the preparatory school followed the southern hemisphere school schedule (following the calendar year), Jenny effectively skipped the first semester of fourth grade when she entered AISCT. Jenny was accepted to AISCT based on provisions outlined in the “Notice of Conditional Enrollment.” This conditional enrollment required Jenny’s parents to agree to the stipulations outlined regarding her education at AISCT. Jenny’s school records from the preparatory school showed that she was achieving at an on-grade-level performance in third grade. Her written work, spelling, phonics, oral work, reading fluency and reading comprehension all scored within the “very good” to “excellent” range on her Term Four Report.

Jenny’s interventions during school included:

- independent reading time
- individualization of independent reading material
- writing shorter answers on quiz questions (such as writing sentence fragments rather than full sentences)
- one-on-one help with reading comprehension quizzes

As will be explained later, Jenny’s initial testing showed that she was only slightly below grade level reading ability. Therefore, the interventions needed during the school day were not laborious. The interventions that promoted Jenny’s cognitive growth and development were those interventions that allowed her to concentrate on content, rather than on depth of answer. For example, when answering questions on comprehension quizzes, Jenny was initially allowed to shorten her answers, sometimes not answering in full sentences. In this way, she was able to show her understanding, while allowing more time for greater understanding of all questions. At her own request, Jenny was also provided with guidance on reading comprehension quizzes. During these times, Jenny was provided with the page number or paragraph within the book in order to find the appropriate answer. Due to the fact that she was directed to the passage, Jenny was given an intervention, as she was able to concentrate on the answer, rather than spending time re-reading and

recalling exactly where the passage was in the book. Although these time-based interventions were not onerous, they did provide Jenny with flexibility. All together, this provided Jenny with approximately 1.5 hours of formal reading intervention time at school per week.

The two parent surveys completed by Jenny's parents revealed that she spent between two to three hours each week independently reading at home. While reading was not required by her parents, she typically spent thirty minutes reading before going to sleep each week night. Jenny's attitude toward reading was reportedly unchanged throughout the course of this study. Her parents reported that she has always had a positive attitude towards reading, and that she enjoyed reading on her own. They did, however, note that at the beginning of fifth grade Jenny was spending more time reading independently than in previous school years. This time spent reading independently was dependent on her enjoyment level with a particular book—the more she enjoyed the book, the more often she read outside of school. The family had a wide variety of books at home, but Jenny rarely accessed these books. Jenny's family, however, considered themselves a family of readers. They enjoyed taking trips to book stores, and often went to book stores at least once a week.

Jenny was initially assessed with a Level 40 text, "The Amazing Octopus." Jenny achieved within the Instructional range on her first testing: 40-1. This was only slightly below grade level reading ability, 40-2. Jenny's second test used the DRA text "Journey to America." Jenny achieved within the Independent range for this fifth grade text: 50-2. Therefore, Jenny increased by 1 1/3 grade levels in her reading ability from the initial to final testing.

Ben:

Ben transferred to AISCT from a Norwegian medium school in Norway. Ben was approximately nine years-old at the start of this study. His father was from Norway and his mother from Sweden. Upon entering AISCT, Ben's parents believed his English proficiency to be low, thus Ben was given English-as-a-Second-Language (ESL) instruction one a one-on-one basis. Prior to transferring to AISCT, Ben received ESL lessons between January and June 2006. Ben's educational background from his previous school was not included within his school records at AISCT. It is unknown if Ben was schooled at one school in Norway previous to his transfer, or if

he was transient in his schooling before enrolling at AISCT. Ben's school records were very limited and only contained a certificate of transfer from his previous school.

During the twenty school weeks that Ben spent in fourth grade at AISCT, he received three lessons of forty-five (45) minutes each in one-on-one ESL instruction. Furthermore, Ben read independently for at least one hour each week in school. Ben's assignments in both reading and writing were shortened and given at a lower reading level that he was able to achieve at during his time of acquisition of English proficiency. All together, this provided Ben with approximately four hours of formal reading intervention time at school per week.

Ben was initially assessed with a Level 40 text, "The Amazing Octopus," and achieved a score of 40-1. Unfortunately, Ben did not return to AISCT for fifth grade. Ben's family unexpectedly moved once again, causing his schooling to be further interrupted. Due to the fact that Ben did not return to AISCT, his parent survey and final testing were incomplete. Additionally, Ben's family did not respond to letters and phone calls requesting that he continue to participate in the study. Therefore, his final testing results cannot be included within the final analysis of the study.

Ben entered AISCT with very limited English, and was able to be tested at a reading level that was just below grade level ability. This shows that Ben's interventions and independent reading practices, especially those having to do with English instruction, might well have been beneficial in the short time he was at AISCT.

Jason:

Jason transferred to AISCT from a public primary school, in Cape St. Frances, South Africa. Jason was approximately 10 years-old at the start of this study. His parents were South Africans and spoke both English and Afrikaans. Jason completed grade three and half of grade four at his previous school. Upon entering AISCT Jason repeated one semester of grade four, having already completed the grade four year at his previous school, a school that follows the southern hemisphere school schedule. Due to the fact that Jason had already completed fourth grade, this was to be a semester of review before promotion to fifth grade. Therefore, a "Notice of Conditional Enrollment" was not issued, because Jason was assumed to be able to

learn at the fourth grade level. Jason's previous school reported his reading abilities to be average to weak. In the areas of comprehension and general language skill, Jason produced very low marks.

Jason's previous school was a dual-medium school, with a class size of twenty-eight to thirty students per class. Jason's parents reported that the school did not emphasize reading during the school day or encourage reading at home nearly as much as AISCT. During his time at (the previous school), Jason lost his confidence in reading. His parent reported that although he enjoyed reading, he did not feel successful or encouraged to become a good reader, and thus lost much of his confidence. They also reported that Jason's reading habits at the previous were sporadic and that he lacked enthusiasm and commitment toward becoming a better reader. "He has never applied himself to the extent that he has now (at AISCT). There was (at the previous school) little to no help from the teacher as the class was large. He lost a great deal of confidence at (the previous school); however, we are pleased to see that his confidence is returning."

Although Jason did not enter AISCT with a "Notice of Conditional Enrollment", it was soon apparent to his fourth grade teacher that his reading level and cognitive development was below grade level expectation. Due to this, a number of interventions were put into place during fourth grade:

- read independently for approximately one hour each week in school
- received one-hour private tutoring twice a week
- provided with graphic organizers to help structure and scaffold reading activities that were beyond his ability
- assignments were shortened
- allowed to participate in partner work where others were required to work independently

As Jason's reading skills improved with these interventions, the interventions took on a slightly different form in fifth grade. As an attempt to encourage Jason to read at a slightly higher reading level, Jason's independent reading was closely monitored. His independent reading book was selected on the basis of his current reading ability, his interest in the subject, and the reading level of the individual book. Although the class novel was above Jason's individual reading capabilities, he was also required to participate and read the class novel. Jason was given the page number within novel studies in order to successfully answer questions. In this way, Jason was able to answer the questions, but was saved time in re-reading large chunks

of texts because his reading comprehension was too low. Additionally, Jason received thirty minutes of one-on-one instruction with his classroom teacher each week. During this time, Jason was able to review grammar, reading and comprehension questions that he did not fully understand during full class instruction. Jason's interventions were significant throughout the time of this study. All together, this provided Jason with approximately four hours of formal reading intervention at school per week.

Jason's parents reported that they made a concerted effort to help Jason improve his reading and cognitive abilities at home since he entered AISCT. The low cognitive level became quite clear to Jason's parents when they became familiar with the level of work, individual thinking and reasoning skills that were required of Jason in the classroom. Therefore, Jason's parents required that he read orally and silently each night. Jason typically spent fifteen minutes reading out loud to his parents, and another thirty minutes to himself each night, allowing him to read for between three to four hours each week. Jason and his father read together each night, and they spent time discussing the section of the book they read. This allowed for Jason to be exposed to more difficult books than what he could read independently. There were non-fiction books, encyclopedias, bird books, wildlife books and magazine such as "Popular Mechanics", all of which were readily available to Jason. He seldom picked up these books to read on his own.

Jason was initially tested with the DRA level 38 text, entitled "Amelia Earhart: The Woman Who Wanted to Fly." This put Jason's initial testing at 38-2, in the Independent range, a high third grade level. As the expected reading level at that time in fourth grade was level 40-2, Jason was approximately half a grade level behind in his reading development.

During the final testing, Jason was assessed using the level 40 text "All the way under." Jason showed competency at the Independent range within this fourth grade text: 40-2. Although Jason still tested below grade level for fifth grade, 50-1, he made a whole grade level improvement from his initial testing.

Rick:

Rick was approximately 10 years-old at the beginning of the study. He transferred to AISCT from a school in Lagos, Nigeria. Both of his parents were Nigerian, and English was not Rick's first language, nor was English spoken at home. According to Rick's admissions' exams report at AISCT there were serious deficiencies in his written language as well as reading abilities. Rick was immediately placed in ESL, one-on-one instructional lessons. Upon further assessment of Rick, it became clear to both the classroom teacher and the ESL teacher that Rick's needs went beyond English language instruction. In May 2007, Rick was assessed by an educational psychologist who determined Rick's reading capabilities to be at the kindergarten level. Additionally, Rick was found to be dyslexic and developmentally challenged. At this point, it became clear to the school that Rick was succeeding in the fourth grade classroom. Despite the concerns about Rick's educational progress, he was still considered as a viable participant of this study because he fit the requirements of an interrupted student.

Due to the fact that Rick's academic capabilities and cognitive development were so low, Rick was not completing any fourth grade work. All of his academic assignments were heavily modified. He received one-on-one instruction in all subjects for as much time as the classroom teacher could provide. Furthermore, Rick received three, forty-five minute English lessons each week.

Rick's initial DRA test was completed with a different approach than the other four participants.³⁵ Rick was first tested at Level 10, a first grade reading level. When presented with this text, Rick was able to use contextual clues to tell what the story might be about. He browsed the pages of the book, and from the pictures, he could generally tell what the story might be about. However, when attempting to read the story, the text proved to be challenging and above a reading level that was attainable for him. Rick was then presented with a Level 2 book, "Bath Time." After completing the assessment with Rick at Level 2, he fell within the acceptable range of Oral Reading. Therefore, Rick's DRA results were based off of using the Level 2 text, "Bath Time."

³⁵ The testing method use for Rick was explained in Chapter Three, section 3.4.2.1

Although Rick's interventions were intensive, Rick showed little progress in his cognitive development. At the end of fourth grade, it was decided by the administration at AISCT that the school did not have the appropriate support structures in place to appropriately educate Rick, and that Rick was simply not benefiting from the type of education that the school could offer. His cognitive and developmental needs went beyond the scope of services offered by the school. Therefore, Rick was asked to leave the school in the hope that his enrollment in a school designed for developmental delays and remedial work would provide him with an appropriate and individualized education. Due to the fact that Rick had withdrawn from AISCT at the time of the second testing, and that his parents were unwilling to have him continue with this study, there is unfortunately no final testing data for Rick.

4.2.2 Uninterrupted Students

Tiffany:

Tiffany enrolled at AISCT at the beginning of third grade. At the time of the second testing, she was in her third year at AISCT. She was nine years-old at the beginning of the study. Tiffany moved to AISCT from Sweden, where she was educated at a French-Swedish dual-medium school. Prior to registering at AISCT, Tiffany was given private, one-on-one ESL lessons. These ESL lessons continued through the first three-fourth, or eight months, of her first year at AISCT. Tiffany was able to achieve English proficiency within those eight months of ESL lessons, and she did not require any subsequent interventions since that time. Her educational history showed that she transferred schools once in her educational career and showed no need for interventions since completing her ESL lessons more than a year before this study began.

Tiffany's family primarily spoke Swedish at home, although both of her parents and her older sister were fully fluent in English. Although the majority of books that Tiffany read were written in English, every third or fourth book that Tiffany read was written in Swedish. Tiffany's parents reported that she read on her own initiative and she was often found reading at home, in the car, while eating breakfast, or other moments during the day. She was not required to read at home by her parents, but she

was encouraged to do so if she had time. Since the beginning of the study, Tiffany showed an increased level of interest in reading and she began reading more difficult books that challenge her reading level. Tiffany did not read every night, but when she did read, she read for between fifteen and thirty minutes. In an average week, Tiffany spent approximately one to two hours reading independently. Within Tiffany's home fiction books were available, and her parents reported that she had begun to peruse these books. As most of these books were beyond her current reading level, she was challenging herself to read more difficult books.

During fourth grade Tiffany was tested using a fifth grade text. Tiffany found success with this fifth grade text, and was able to achieve within the Independent range, showing her to be competent at a fifth grade level: 50-2. Therefore, at the beginning of the study, Tiffany was reading one grade level above her grade. During the second testing Tiffany was assessed using a sixth grade text. Again, Tiffany was able to score within the Independent range: 60-2. As the grade level reading for fifth grade is a score of 50-1, Tiffany was able to increase her reading level by a whole grade level, as well as advancing well ahead on grade level ability.

Len:

Len entered AISCT in first grade, and at the time of the second testing, was beginning his fifth year at AISCT. He was nine years-old, almost ten, at the beginning of the study. Len was South African, and both of his parents were English speaking South Africans. Since third grade, Len received some modifications within the subject of spelling. Len's spelling words were modified slightly in order to allow him to learn sight words and words with 'tricky' spellings by rote. However, these modifications were not substantial throughout this schooling at AISCT. Other than spelling word modification, Len did not receive interventions since beginning his schooling at AISCT.

Len's parents reported that they saw a dramatic increase in his reading interest level since entering fifth grade. Within a typical week, Len spent approximately two hours each week reading independently at home. Len's parents required him to read for thirty minutes each night. The major change Len's parents saw in his independent reading was his desire to read more difficult and grade level appropriate books. Whereas he used to read comics and below grade level humor books such as *Captain*

Underpants, he became interested in reading longer and more complex books such as the *Harry Potter* series. There were books on design, architecture, travel, history and nature at home. These books were available to Len, but he only sometimes perused these books.

Len's first testing was with a fourth grade level text. He scored within the Instructional range, 40-1, showing that he was just below grade level at the end of fourth grade. At Len's second testing, he was tested using a fifth grade level text, and again scored at the Instructional range, 50-1. Len was able to make a full grade level jump in his reading level in less than one academic year. As Len was at the beginning of fifth grade during the second testing he was able to score at grade level, as the at grade level score was 50-1. Therefore, Len was able to make a full grade level increase, and was able to move from a below grade level result to that of achieving at grade level.

Vince:

Vince began his schooling at AISCT when he entered kindergarten at age five. At the beginning of this study, Vince was almost ten years-old. He was originally from Holland, and spoke Dutch to his parents, although he spoke English to his older sister. Since beginning school at AISCT, Vince did not receive any interventions.

Vince's mother reported that there were no family rules regarding the amount of time spent watching television or playing video games. Vince enjoyed skateboarding and playing outside. His free time at home was not monitored in terms of activity – it was his choice to play outside, watch television, play video games or read. In a typical week, Vince spent between forty-five minutes and one hour reading independently. Vince's mother reported that she had seen Vince take more interest in reading challenging books. Although his time spent reading had not increased, he had pushed himself to read grade level books, rather than simply reading comics or below grade level books. The home library consisted of mostly fiction books, and there were many books written in Dutch. Vince did not often read these books, as he preferred to read in English.

Vince was initially tested using a fourth grade text. Vince scored within the Independent range, 40-2, resulting in grade level ability for the end of fourth grade. At the second testing, Vince was tested using a grade level text, and he scored within

the Instructional range: 50-1. For the beginning of fifth grade, this result shows that Vince was reading at grade level. Therefore, Vince kept his status of reading at grade level and did not make a full grade level improvement from the first to the second testing.

Geoff:

Geoff entered AISCT at the beginning of third grade. He was in his third year at AISCT at the end of the study. At the start of the study he was nine years old. Prior to attending AISCT, Geoff was schooled at an international school in Lagos, Nigeria. Geoff was American, and English was the only language spoken at home. Since entering AISCT, Geoff had not receive any interventions.

Geoff's parents reported that "he is an incredibly voracious reader that devours anything with print". Although Geoff's parents did not require him to read at home, Geoff typically spent between seven to eight hours reading independently each week. Geoff's love of books and reading caused him to read constantly – whether he had just finished homework, was riding in the car or on holiday from school. One of the means by which Geoff was disciplined was that he was not allowed to read, as this took away one of his most favorite activities. When he entered fifth grade the amount of time that Geoff spent reading increased from previous school years, but the major difference in his reading was the types of print that he read. Geoff became interested in reading difficult texts that challenged him in his thinking, as well as reading encyclopedias for fun. There were history, fiction, nature and encyclopedias at home and Geoff had full access to all of these books. Geoff's parents reported that he often enjoyed reading and perusing various books at home.

Geoff was initially tested with a fifth grade text when he was in fourth grade. Geoff scored at the Independent range, 50-2. At the beginning of the study, therefore, Geoff was a grade level above the normative reading level. At the second testing, Geoff was tested using a seventh grade text. Geoff was again able to score at the Independent range, 70-2. Between the two testing periods, Geoff was able to increase his reading level by two full grade levels.

Ivan:

Ivan entered AISCT in third grade, and he was in his third year at AISCT at the end of the study. Prior to attending AISCT, Ivan was enrolled at an international school in Dakar, Senegal. Ivan was ten years-old at the beginning of the study. Upon entering AISCT, Ivan had not received any interventions. Ivan was American, and English was the only language spoken at home.

Ivan's parents reported that he typically spent between seven to eight hours reading independently each week. Although his parents did not require him to read at home, he was encouraged to read when he was 'bored'. There were three specific days in the household each week that were deemed "no electronics" days, and therefore Ivan preferred to read on these particular days. The amount that Ivan read each week increased somewhat from the beginning of this study to the end, but the major difference was the material that he was reading. Ivan began to enjoy researching the answers to his questions about how the world works. This caused him to look in various texts and to read for specific answers. Often times these texts were difficult and beyond his reading level. There were history, fiction, and nature books in each room of the house. Ivan found and used these books sometimes, but he mostly used these books to discover answers to questions regarding various topics. He was encouraged to find his own answers to questions rather than just asking his parents.

Ivan was initially tested with a fifth grade text when he was in fourth grade. Ivan scored at the Independent range, 50-2. At the beginning of the study, therefore, Ivan was a grade level above the normative reading level. At the second testing, Ivan was tested using a seventh grade text. Ivan was again able to score at the Independent range, 70-2. Between these two testing periods, Ivan was able to increase his reading level by two full grade levels. At the conclusion of the study, Ivan was more than two grade levels ahead of the normative grade level reading capability of fifth grade, 50-1.

4.3 Conclusion

The profiles of the individual students that participated in this study relating to the Developmental Reading Assessment were presented in this chapter. Each individual profile served to outline the specific details regarding both the prior educational career of each student, as well as the interventions at school and independent reading activities at home that were undertaken by the students during the course of the study. The possibility of outlining the individual profiles of each of the students could occur due to the small sample size of the students within this study. This small sampling size allowed for an in-depth account for each individual participant within four main areas of interest:

- prior schooling background
- interventions received during the course of the study
- home reading practices
- the reading results from both the initial and final reading tests

As explained in Chapter Three, the methodology and reasoning behind the sourcing of this information was aimed directly at answering the main research question. Chapter Five will examine the common trends in the data, as well as to present the main findings and suggestive patterns revealed through the data gathered.

Chapter V: Analysis of Results

5.1 Introduction

In the previous chapter the individual profiles of the ten student participants in the Reading Progress Study were described and presented. An in-depth account for each individual participant regarding four main areas of interest was offered:

- prior schooling background
- interventions received during the course of the study
- home reading practices
- the reading results from both the initial and final reading tests

Now that the reading results and individual educational backgrounds have been outlined, it is appropriate to describe and summarize the main results and trends that were obtained through this study.

5.2 Analysis of Results

Having presented the individual differences between the students in this study, the results of their reading tests can now be compared and contrasted. The testing results from the Reading Progress Study were given codes that correlate to the Developmental Reading Assessment standards. Each grade level was denoted by a multiple of ten. Furthermore, each grade level was broken down into level of achievement within the grade level, resulting in the possibility of a student achieving at one of three levels within each grade level. The three levels were:

- Instructional (1)- beginner readers at that level
- Independent (2)- achieving satisfactorily at that reading level
- Advanced (3) - advanced level at that reading level and ready to move on to the next grade level.

Therefore, a student that achieves a reading level of 50-2 would be reading independently at the fifth grade level.

Grade Level	DRA Text Level Denotation
Third Grade	Instructional 30-1
	Independent 30-2
	Advanced 30-3
Fourth Grade	Instructional 40-1
	Independent 40-2
	Advanced 40-3
Fifth Grade	Instructional 50-1
	Independent 50-2
	Advanced 50-3
Sixth Grade	Instructional 60-1
	Independent 60-2
	Advanced 60-3
Seventh Grade	Instructional 70-1
	Independent 70-2
	Advanced 70-3

Table 4: Developmental Reading Assessment Code Explanation

As each grade level was divided into three levels of accomplishment, each grade level was therefore separated into $\frac{1}{3}$ of a grade level. Each time a student increased in reading ability, he/she progressed in incremental steps of $\frac{1}{3}$. Therefore, a student could improve by $\frac{1}{3}$, $\frac{2}{3}$, $\frac{3}{3}$ (one full grade level), $\frac{4}{3}$, $\frac{5}{3}$, $\frac{6}{3}$ (two full grade levels) and so on.

$\frac{1}{3}$	$\frac{1}{3}$ grade level increase
$\frac{2}{3}$	$\frac{2}{3}$ grade level increase
$\frac{3}{3}$	1 full grade level increase
$\frac{4}{3}$	$1\frac{1}{3}$ grade level increase
$\frac{5}{3}$	$1\frac{2}{3}$ grade level increase
$\frac{6}{3}$	2 full grade levels increase

Table 5: Developmental Reading Assessment Incremental Explanation

This understanding of the Developmental Reading Assessment must be used in order to fully understand Table 3. This table presents the following data for all of the students in the study, both the interrupted and interrupted participants:

- the test results of both the first and second tests
- testing results increase
- hours per week spent engaged in informal pedagogically engaged reading time at home
- hours spent in formal pedagogically engaged reading intervention time at school

	Name	1 st Testing Level	2 nd Testing Level	Increase	Hours spent independently reading each week at home	Hours spent in intervention each week
Uninterrupted Students	Tiffany	50-2	60-2	1 whole grade level	1-2 hours	-----
	Len	40-1	50-1	1 whole grade level	+/- 2 hours	-----
	Ivan	50-2	70-2	2 whole grade levels	7-8 hours	-----
	Geoff	50-2	70-2	2 whole grade levels	7-8 hours	-----
	Vince	40-2	50-1	2/3 of a grade level	45 min- 1 hour	-----
Interrupted Students	Henry	40-1	50-2	1 1/3 grade levels	2-3 hours	1.5 hours
	Jenny	40-1	50-2	1 1/3 grade levels	2-3 hours	1.5 hours
	Jason	38-2	40-2	1 whole grade level	3-4 hours	4 hours

Table 3: Reading Progress Study Summary

All of the students, regardless of their interventions, increased their reading level. This presentation of the main findings serves to show the differences and similarities between those students of interrupted background and those of uninterrupted background. Furthermore, Table 3 shows the grade-level increase achieved between the two testing results. The last two columns of Table 3, indicates the degree to which hours of independent reading and interventions influenced reading proficiency.

The main trends that emerged from this data are discussed in section 5.4 of this chapter. Before a summary of the main trends and patterns between and across the interrupted students and uninterrupted students can be given, an explanation of the individual students' results will be presented. What follows is an individual explanation (based on the individual profiles and the chart above) of the reasons why and how each individual student was able to increase in reading level from the initial to second testing. The interrupted students' results are presented first, followed by the uninterrupted students.

5.3 Individual Student Results

5.3.1 Interrupted students

Henry:

Henry's parents reported that he showed a high level of interest in taking responsibility for his own reading and its enjoyment. Whereas in the past his parents read to him at night, Henry began reading on his own during the course of this study. He enjoyed reading books that challenged his reading level. Henry did receive some interventions at school, which created more time for him to make advancements in his reading level.

There were four major factors taking place at home and at school that seem to have allowed Henry to make more than a grade level increase in his reading:

- time he spent reading each week
- level of difficulty of books he selected
- increased independent reading
- interventions resulting in time-on-task

All of these factors allowed Henry to be exposed to grade level books for sustained periods of time, thus creating a probable means by which his reading level increased. The interventions that Henry received at school, combined with the three major home factors creating independent reading time at home, appear to have affected Henry's ability to make more than a grade level increase in a short period of time.

Jenny:

Jenny's reading level growth could possibly be attributed to her:

- general enjoyment of reading
- time spent reading each week
- desire to read books that stimulate her
- interventions resulting in time-on-task

Although Jenny was not substantially dependent on the reading interventions that she received at school, the interventions seemed to have played a role in her reading level increase. Therefore, it is likely that there is a combination between the interventions at school, and the time spent reading above grade level texts at home.

According to Jenny's parents, it seemed that Jenny had a sustained history of interest in reading. She enjoyed adventure books, and she became completely engrossed in books that she found highly interesting. Her reading level growth could possibly be attributed to her time spent reading, as well as her interest in new books and access to books on a weekly basis. Her reading level growth could also be credited to her desire to read difficult books, as long as they were deemed 'interesting'. All of these reading interactions – resulting in independent reading at home – seemed to have worked in conjunction with the school-based interventions to allow Jenny to make more than a grade level increase in a short period of time.

Jason:

Jason's reading level was almost a full grade level behind the standard reading level for his grade when he was first tested. At the time of the second testing, Jason was still almost a full grade level behind where he should have been at grade level standards. Regardless, he did indeed make progress in a short period of time. In examining Jason's educational history, it was evident that Jason had many compounding factors that contributing to his being below grade level when entering AISCT. These factors included:

- attending a dual-medium school
- large class size resulting in little individual attention in reading
- teachers that did not encourage independent reading
- a general sense on Jason's part of his inability to succeed in reading, thus causing a feeling of incompetence

Even though Jason had finished fourth grade at his previous school, he repeated two terms of fourth grade at AISCT. Despite repeating half of fourth grade, Jason was still a grade level behind at the time of his second testing. The compounding nature of Jason's educational background seems to have made the interventions at school and independent reading at home necessary, but not sufficient, to his reading level development.

Jason did indeed receive many interventions between testing dates, and he was reading independently at home on a regular basis. Jason was able to make a whole grade level increase in his reading abilities. This progress can possibly be attributed to the following factors:

- a smaller class with more individual attention to his reading development
- the classes were only English medium
- he was encouraged to read more and to read books that were beyond his reading level
- he was exposed to difficult texts at home while reading with his father
- his time spent reading each week
- his disposition towards reading

Jason appeared to have gained confidence in his reading through these pedagogically-engaged activities. As he was encouraged to become a better reader at home and at school, Jason desired to see improvement in his reading. He became willing to work hard to improve, and he enjoyed the growth process.

Due to his educational background, Jason had more to overcome than the other students within this study. It is possible to infer that Jason needed more interventions and independent reading time to make up for the underperformance in his education. He made progress in the time between the first and the second testing, but in order for him to reach grade level reading, he needed to continue with both the formal interventions at school, and informal independent reading at home.

5.3.1.1 Commonalities of results amongst Interrupted Students

Although the small number of participants makes it difficult to generalize, it is possible to discern several common trends based upon the biographies of the three interrupted students. In all three cases, the students were able to make at least a grade level improvement between the first and second testing. Henry and Jenny were able to move from an initial testing score below grade level to achieving grade level performance at the second testing. Jason's score was also below grade level at the first testing, and although he made a whole grade level improvement, he was not able to make grade level requirements for the second testing. As noted above³⁶, Jason had many compounding factors in his educational history that seem to have caused him to be further behind than Henry and Jenny on the initial testing. Due to the fact that Jason was behind Henry and Jenny to begin with, it is perhaps not surprising that he was still behind at the second testing. Jason's total pedagogically-engaged time seems to have allowed him to make gains, but his educational background suggests that he will need more pedagogically-engaged time for him to be able to reach the same reading level of Henry and Jenny. The latter two students, Henry and Jenny, were behind grade level ability when they were first tested, and were able to make more than a grade level increase, allowing them to make up for the low level reading, and allowing them to achieve grade level ability.

The two main factors contributing to cognitive development in reading competence for all of the students with an interrupted background was the fact that they all received formal interventions at school and informal independent reading time at home. Henry and Jenny received very similar interventions at school, and had similar reading habits at home. Although Jason did receive more interventions at school, and did spend more time at home reading than both Henry and Jenny, it seems he was not able to catch up with Henry and Jenny due to the various and compounding interruptions within his educational history. Henry and Jenny did not have educational histories that included dual-medium schools, large class size, a lack of encouragement to read, and confidence issues – all of which Jason had to contend with in his past schooling. In sum, the interventions at school, combined with the reading time and cognitive demand of reading material appear to have helped enable these three students to make gains in their reading level development.

³⁶ In section 5.3.1 "Jason"

5.3.2 Uninterrupted students

Tiffany:

Tiffany was able to make a full grade level jump from the first to the second testing. From her educational background, it was evident that she was able to acquire English rapidly and subsequently did not need any further interventions. The questionnaire from her parents revealed that Tiffany enjoyed reading and that she would read voluntarily. Even though her parents did not require her to read at home, she often took it upon herself to read. While Tiffany did not read for long periods of time, she did challenge herself with difficult books. In general her interest in books and reading increased from fourth grade to fifth grade, but the amount of time spent reading did not increase significantly.

Tiffany's increase in reading level could be due to her increased level of interest in reading, and the increased level of difficulty of her books. However, it is possible that she did not make further growth in her reading level due to the fact that she did not spend more time reading. Although Tiffany did show a high interest in reading, and read more challenging books, she was not in turn spending a greater amount of time reading. The growth seemed to be due to her willingness and desire to read more challenging books, but was not compounded with greater amounts of time spent reading.

Len:

Len's grade level jump from the first to second testing shows that he was reading at grade level at the time of the second test. Aside from the small spelling modifications that Len received, he did not receive any interventions.

Len did not spend significantly more time reading at home in fifth grade than in fourth grade, but he showed an increase in the level of difficulty within the books that he was reading. His reading level increase, therefore, can most likely be attributed to the fact that he began reading books that were grade level appropriate. Due to the fact that he was at a lower reading level than expected at the end of fourth grade, the fact that he began reading on-grade level books could have caused him to make a jump to reading on-grade level. He did spend time reading at home, but it was the quality and level of books that seems to have made the difference in his case.

Vince:

Vince was able to read at grade-level at the end of fourth grade, and he made gains to be able to read at the fifth grade level when he was tested for a second time. He was, therefore, able to make improvements, but his improvements did not go beyond general cognitive development maturation that is expected for any child attending school full time.

Vince's steady growth in reading level development could possibly be attributed to his general academic learning and the fact that he was reading more challenging books than he was in previous grades. However, it is possible that Vince did not make a full grade level increase due to the fact that he did not spend a significant amount of time outside of school reading. Vince's attitude toward reading showed a slight improvement, as he was interested in reading more difficult books, but he was not encouraged to read more often. Much like Len, Vince's interest in reading more difficult books most probably allowed him to achieve grade level reading – but did not allow for further increase in reading level due to the fact that he did not read for significant amounts of time outside of school.

Geoff and Ivan:

Geoff and Ivan have very similar educational backgrounds, academic results and at home reading practices. A summary, therefore, of both students together can be given. Given the outline in the individual profiles, the major difference between Geoff and Ivan's at home reading practices was that Geoff read all types of text during his leisure, whereas Ivan read the same types of text for specific answers to his questions regarding general knowledge and trivia. Although there was a difference, it was only slight – the end result was the same: they were both reading the same type of texts, albeit for slightly different reasons.

Their reading level increase was highly significant. Geoff and Ivan made a two grade level increase in their reading abilities. They both tended to:

- read between seven to eight hours each week
- read books with a high level of difficulty
- read a range of reading material
- have an overall love of reading and knowledge

They were able to challenge themselves to read broadly, and in difficult texts which could have allowed for reading level growth. That growth was likely further substantiated by the very large amount of time that they spend reading at home.

5.3.2.1 Commonalities of results amongst uninterrupted students

Although the uninterrupted students comprised five rather than three participants, the number of participants is still small, making generalizations difficult. Nevertheless, there are discernable patterns that can be gleaned from the testing data and amount of time spent reading at home. For these students, the constant variable of interventions at school was eliminated, due to the fact that none of the students received interventions at school. It is therefore possible to attribute the differences in the gains made by these students to their reading patterns and behaviors at home. As independent reading at home served the same type of purpose as intervention (resulting in an increase of pedagogically-engaged time), the time spent reading at home can be positively correlated with an increase in reading levels. Time-on-task, or time spent reading, has shown itself to be the key factors in all of these students.

Examining the trends in at-home reading practices of the uninterrupted students, suggests that the more time the students spent reading, the greater their increase in reading level. Vince, who spent less than one hour reading each week, made the least amount of gains, whereas Geoff and Ivan, who spent seven to eight hours reading each week, made the most substantial growth in reading level.

Although Geoff, Ivan, Tiffany and Len all reported that they did not increase their time spent reading compared with previous school years, they all reported reading more difficult texts, resulting in increased cognitive demand. Therefore, type of text becomes an important factor. Not only were these students reading at home, but they were reading challenging texts that enabled them to make improvements in their reading level from the first to the second testing.

5.4 Main Trends

When the results of the Developmental Reading Assessment and pedagogically-engaged time of interrupted and uninterrupted students are compared, the major pattern and commonality that emerges is *time* and *cognitive demand*. The reading level development achieved by all of the students – together with the pedagogically-engaged time provided to the students – presents a picture of the most likely factors that enabled the students to make cognitive growth in reading competence beyond expected maturation. These factors do not take into account other measurements that could have contributed to reading competence (such as IQ and motivation of the students), since these measurements were outside the scope of this study. Nevertheless, the two factors, of time and cognitive demand, are highly suggestive. From the results discussed in this chapter thus far, it is possible to establish four main trends.

5.4.1 Main trend one

The data suggests that all students received pedagogically-engaged time through independent reading routines at home. Although this time was informal, the time provided a means by which students could practice and develop their competence and hence boost their cognitive development.

All of the parent questionnaires showed that students received pedagogically-engaged time through independent reading at home. Again, this time was informal as it took place at home, but it did provide pedagogically-engaged time.

Given the above evidence, Main Trend 1 can be established:

All students, regardless of their educational background, experienced an increase of pedagogically-engaged time in the form of informal independent reading at home.

5.4.1 Main trend two

Each of the three students in the interrupted group made significant gains in their reading level. Two of the students, Jenny and Henry, made increases of more than a grade level in six months. This increase of 1 1/3 grade levels shows a gain beyond expected maturation. Additionally, Jason was able to increase beyond expected maturation, as he increased his reading level by one grade level.

As each of the students was below-grade level during the first testing, they each presented underperformance between their reading level and grade-level reading ability. Within the six months between the initial and the final testing, each one of these students managed to close in on the gap. In the two cases, Jenny and Henry, the underperformance gap that existed in their reading ability was eliminated by the time of the second testing. Their increase allowed them to progress from below grade level reading in fourth grade, to reading at grade-level in fifth grade by the second testing.

The underperformance gap that existed for Jason between expected grade-level reading ability and his actual reading ability was almost a full grade level. Due to the fact that Jason was further behind than Jenny and Henry, it was not expected that Jason would be able to reach the same reading level ability as Jenny and Henry by the time of the second study. However, the data showed that Jason did increase his reading ability by one grade level. This resulted in a closure of the gap between his reading abilities and expected grade-level reading ability. Although there was still a gap between his reading ability and expected grade-level reading at the second testing, Jason had partially closed the gap during the sixth month period between testing.

Given the above evidence, Main Trend 2 can be established:

The interrupted students made gains to close the cognitive gap that existed between their reading level and grade level reading ability.

5.4.3 Main trend three

Within the uninterrupted student group, all students showed gains in their reading level ability. As the students had finished the last part of fourth grade and the first part of fifth grade, maturational gains in reading ability were to be expected. Since the students' education had progressed it would be logical to conclude that their reading development would also increase.

Amongst the students in the study, there were major gains in reading level ability in a short period of time. In just six months, four of the five students in the uninterrupted student cohort showed growth beyond expected maturation. The fifth student, Vince, made only maturational gains.

Given the above evidence, Main Trend 3 can be established:

The majority of uninterrupted students made increases in their grade-level reading ability beyond expected maturation.

5.5.4 Main trend four

The two variables that differed between the uninterrupted and the interrupted groups consisted of, first, the interventions that the interrupted students received and second, the educational background. The former group of students received no interventions and had no interruption in educational background, while the latter group did receive interventions and had an interrupted educational background. Within both the interrupted student group and the uninterrupted student group, all students showed gains in their reading level ability. As explained in sections 5.3.1 and 5.3.2 of this chapter, as well as Main Trend Two and Main Trend Three, the interrupted students and the uninterrupted students made reading ability gains beyond expected maturation.

Through the use of interventions, it was hypothesized that the interrupted students would make more than maturational gains, resulting in a closure of the gap that existed between the cognitive abilities of the interrupted and the uninterrupted students. The uninterrupted students were hypothesized to make only maturational gains, thus allowing the interrupted students to 'catch-up' in their cognitive abilities. It was, however, not expected that the uninterrupted students would also make more than maturational gains, resulting in a constant gap of cognitive development between the two groups. As both groups of students made gains beyond expected maturation,

the gap in cognitive ability between the two groups remained constant from the first testing to the second testing.

As reported in section 5.4.1 of this chapter in Main Trend One, all of the students enjoyed extra pedagogically-engaged time, either through the use of independent reading. Main Trend Four stems from Main Trend One, as the reasons for the continued gap in cognitive ability between the two groups can probably be attributed to the fact that the uninterrupted students engaged in greater than expected independent reading time. The independent reading time at home seems to have had an effect on their cognitive development, thus the continued gap in cognitive ability between the interrupted and uninterrupted groups of students.

Given the above evidence, Main Trend 4 can be established:

The interrupted students did not close the gap between their reading level and that of the uninterrupted students'. It is supposed that this could be attributed to uninterrupted students also taking part in informal reading practices at home that allowed for pedagogically-engaged time, which appears to have accelerated their cognitive development.

5.5 Conclusions

This chapter has reported the results of the empirical study so as to determine the main trends in the research. The possible means by which each individual student developed cognitively was offered. Furthermore, the commonality within the interrupted students' data and the uninterrupted students' data was compiled for comparison. The comparison of data across both groups of students uncovered trends in the data; that is, the high likelihood that pedagogically-engaged time had a direct influence on cognitive development in the reading competence for the students within this study.

While it was expected that the interrupted students would need individualized interventions at school (due to their below grade level performance on the first reading test), it was not expected that they would encounter pedagogically-engaged time at home (through independent reading) as well. Even more surprisingly, the uninterrupted students also showed evidence for encountering pedagogically-engaged (through independent reading) time at home. Therefore, both groups had an unexpected increase in pedagogically-engaged time due to home independent reading

practices. The interrupted students received formal pedagogically-engaged time through interventions at school that were specifically designed to increase cognitive development. The interrupted students also had informal, but routinized, forms of pedagogically-engaged time through home independent reading practices.

The uninterrupted students did not have interventions at school, but were engaged in the same form of informal, but routinized, pedagogically-engaged time through reading practices at home. In effect, both groups received pedagogically-engaged time, but the interrupted student received more formal pedagogically-engaged time due to the targeted interventions. Thus, the two groups were utilizing the same practices, causing the interrupted group to close the educational gap in their grade level ability, but not the gap that initially existed between the interrupted group and the uninterrupted group.

The main trends in the data reveal:

1. All students, regardless of their educational background, experienced an increase of pedagogically-engaged time in the form of informal independent reading at home.
2. The interrupted students made gains to close the cognitive gap that existed between their reading level and grade level reading ability
3. The majority of uninterrupted students made increases in their grade level reading ability beyond expected maturation
4. The interrupted students did not close the gap between their reading level and that of the uninterrupted students'. It is supposed that this could be attributed to uninterrupted students also taking part in informal reading practices at home that allowed for pedagogically-engaged time, which appears to have accelerated their cognitive development.

The main findings from this chapter are further to be scrutinized for implications in the final chapter. These implications are based on the Main Trends established in this chapter and the findings in Chapter Two. Furthermore, the conclusions drawn from these trends will allow for an answer to the main research question, as well as recommendations, based on the conclusions.

Chapter VI: Conclusions and Recommendations

6.1 Introduction

The preceding four chapters of this study presented the following: literature pertaining to studies of curriculum type and pedagogically-engaged time; the methodology of the study as well as the rationale for that methodology; and an analysis and discussion on the findings of this study. This final chapter seeks to submit conclusions and recommendations based on the data and conclusions gathered in these four previous chapters.

This chapter presents the conclusions of the entire study. Within this discussion, the evidence is drawn together to obtain conclusions and conjectures to the main research question and hypotheses posed at the beginning of the study. Following this discussion, deviations from expectations are discussed. Here, the results and conclusions are discussed in terms of their confirmation of, or deviation from, the hypotheses presented at the beginning of the study. Furthermore, reasons for deviations from original expectations are clarified.

After establishing the conclusions to the research question, based on the of main trends in the Reading Progress Study given in Chapter Five, connections to the literature review from Chapter Two are presented. This section summarizes how the findings and conclusions of this study fit in with the current literature.

This discussion leads to concluding remarks on the larger significance of this study as it relates to international elementary schools. These include some recommendations for the type of curricula used in international elementary schools with an interrupted and uninterrupted population of students. Evidence from the literature review and the data gathered through the School Comparison Study and the Reading Progress Study serve as the basis for connections made to the larger international school community. Finally, the last section presents ideas for possible further scholarship study regarding international elementary schools.

6.2 Study conclusions

6.2.1 Introduction

The conclusions to this study are presented through a discussion of the original hypotheses stated in Chapter Three. The discussion of the hypotheses, coupled with the Main Trends established in Chapter Five, leads on to the conclusions regarding the main research question:

Is reading development influenced by the increase of pedagogically-engaged time amongst interrupted students within a particular curriculum?

Hypotheses established in Chapter Three:

1. The design features of a traditional curriculum, rather than a progressive curriculum, are likely to facilitate the use of interventions for students with an interrupted educational background.
2. Reading level gains within the interrupted student group are expected to go beyond expected maturation and to be larger than the reading level gains within the uninterrupted student group.
3. The uninterrupted student group is expected to make maturational gains in reading level ability.
4. The cognitive gap between the interrupted student group and the uninterrupted student group at the time of the second testing will be smaller than the cognitive gap at the first testing.

The following was presented as an alternative hypothesis to the above:

5. Independent reading that takes place at home will have an effect on the cognitive development of both groups of students, causing the interrupted students to make reading gains and the uninterrupted students to make beyond expected maturation reading level gains.

Main Trends established in Chapter Five:

1. All students, regardless of their educational background, experienced an increase of pedagogically-engaged time in the form of informal independent reading at home.
2. The interrupted students made gains to close the cognitive gap that existed between their reading level and grade level reading ability.
3. The majority of uninterrupted students made increases in their grade level reading ability beyond expected maturation.

4. The interrupted students did not close the gap between their reading level and that of the uninterrupted students'. It is supposed that this could be attributed to uninterrupted students also taking part in informal reading practices at home that allowed for pedagogically-engaged time, which appears to have accelerated their cognitive development.

6.2.2 Primary Conclusion

Of the hypotheses detailed at the beginning of this study, the Main Trends and study conclusions confirmed some, but not all of the hypotheses. What follows is a discussion of the conclusions as hypothesis by each hypothesis.

Hypothesis One: The design features of a traditional curriculum, rather than a progressive curriculum, are likely to facilitate the use of interventions for students with an interrupted educational background.

As this study took place at a school that employed a traditional curriculum, it was expected that interventions would be used as a means to facilitate a repair system for interrupted students. As discussed in Chapter Three, this hypothesis was derived from the literature basis that suggested that within a traditional curriculum, interventions were likely to be implemented (Blenkin, 1981; Chall, 1967; Chall, 2000; Flesch, 1981; Kirschner et al, 2006; Ravitch, 2001). This theoretical basis was presupposed to be true, since a school that implemented a traditional curriculum (American International School of Cape Town) was chosen as the location for the study. This hypothesis, derived from the literature, was supported by the fact that AISCT did use interventions as a means of repair system for those students exhibiting underperformance. Thus, all things being equal, it seems that this hypothesis has received certain circumstantial support.

Hypothesis Two: Reading level gains within the interrupted student group are expected to go beyond expected maturation and to be larger than the reading level gains within the uninterrupted student group.

The first half of the second hypothesis was supported by the data from the second reading test, while the second half of the statement was not supported. For the majority of the interrupted students, reading level gains were higher than expected by maturation. These gains, however, were not larger than the gains made within the uninterrupted students group. As has been explained in the previous chapter, it seems

the main reason why the interrupted students did not make larger reading level gains than the uninterrupted students was the factor of independent reading, which increased the pedagogically-engaged time that the uninterrupted students received.

Hypothesis Three: The uninterrupted student group is expected to make maturational gains in reading level ability.

Rather than simply making maturational gains, the uninterrupted student group made beyond expected maturational gains in their reading level development. As the Main Trends established, this was most likely due to the influence of the habitual use of independent reading by the uninterrupted student group at home – causing an increase of pedagogically-engaged time as stated above.

Hypothesis Four: The cognitive gap between the interrupted student group and the uninterrupted student group at the time of the second testing will be smaller than the cognitive gap at the first testing.

The fourth hypothesis is also not supported by the evidence. Due to the fact that both groups of students, interrupted and uninterrupted, received pedagogically-engaged time, the gap between the two groups still existed at the conclusion of the study. Although, therefore, both groups of students increased in their reading level development, the gap remained unchanged between the two groups. As noted in the Main Trends, however, the uninterrupted students did close the underperformance gap between grade level expectation and their initial reading level. Thus, both groups improved, but the gap that originally existed between the two groups was maintained throughout the duration of the study. The unchanged gap between the two groups could also be attributed to the short time (six months) between the first and second tests. The interrupted students did receive targeted interventions during the six months, but the time spent in these interventions and the total time of six months was likely not enough to see a closure in the gap between the interrupted and uninterrupted groups. Perhaps given more time in formal interventions over a longer period between testing would have shown a closure in the gap between the two groups of students.

Hypothesis Five: *Independent reading that takes place at home will have an effect on the cognitive development of both groups of students, causing the interrupted students to make reading gains and the uninterrupted students to make beyond expected maturation reading level gains.*

The effectiveness of pedagogically-engaged time within a traditional curriculum was measured using the results of the Reading Progress Study. The results of the study gave an indication of how effective pedagogically-engaged time was in the overall reading level development of the students within this study. The factor of time, and how that time was maximized through pedagogically-engaged time, was the key factor in determining reading level growth in students with a both interrupted and uninterrupted background.

The Main Trends concluded that pedagogically-engaged time was highly effective in developing cognitive growth in all students, not just those with an interrupted educational background. The data gathered through this study revealed that, regardless of previous educational background, all of the students in this study received some sort of pedagogically-engaged time, whether through interventions at school or independent reading at home. For those students with an interrupted educational background, the pedagogically-engaged time occurred at school and at home. The uninterrupted students, who did not receive interventions at school, engaged in independent reading at home.

Due to the specific nature of the interventions at school, and the informal but habitual, reading patterns at home resulting in pedagogically-engaged time, it is possible to surmise that whether at home or at school, pedagogically-engaged time positively correlates to reading level development. Due to their interrupted educational background, these students need more pedagogically-engaged time, and thus should optimally be provided with access to time at school *and* at home.

The data showed that all of the students made gains within their reading level development and all of the students read at home. It is therefore plausible to surmise that the major factor in cognitive growth is pedagogically-engaged time. Whether this time is accumulated at school or at home, *time* seems to be the key factor for the cognitive development of students.

6.2.3 Secondary Conclusions

There were three other conclusions that could be drawn from the results:

First, given the fact that not all of the students with an interrupted background reached grade level reading ability during the study, an inferential connection can be drawn as to the nature of the educational background of students and the time that is needed for these interruptions to be filled. It seems plausible that if a student has many interruptions in their educational background, it will take more time to fill those gaps in the previous education, requiring more time to achieve grade level ability.

Second, the results showed that regardless of educational background, the type of books that students read had an impact on their reading level development. Two factors influenced the types of books the students read: the interest level in a particular book, and the reading level of a particular book. The results of the study showed that for all of the students, their interest in reading and the level of books that they read were factors in their reading level development. Three of the students did not have any increase in the time spent reading at home as compared to previous school years, yet they too showed an increase in reading level. It seems, therefore, that there was another factor to be considered. For all three of these students who showed a greater interest in the books they were reading, those books were at a higher reading level than they had previously read. The students made larger gains if they were interested in reading books that were at or above grade level reading. The students that pushed themselves to read books beyond the elementary level increased their reading level. It can be surmised that the time they spent reading relatively advanced material was also important to their reading level development. An inference, therefore, can be made that not only is time a major factor in reading level development, but also the level of interest in a particular book and the reading level difficulty of those books.

Third, based on the results, it appears that certain home factors play a role in reading level development:

- availability of books to the student
- modeling of reading by parents
- reading to parents or siblings
- oral and written use of primary and secondary languages at home
- types of books in the home

The results showed there was some influence of these factors, though these factors were not quantitatively measured. A tentative conclusion can be drawn that the above home factors play some role in reading level development, but their exact significance is unclear, or in what specific ways they influence development.

Fourth, the interventions for each of the students with an interrupted educational background were individualized to the particular underperformance gaps in the students' cognitive development. The individualization of instruction represents an element of progressive pedagogy in instruction. Rather than whole class instruction, the individual student was targeted and individually taught. The construct of having elements of progressivism (individualized interventions) within a traditional curriculum is not common. Conceivably, the requirements of the repair system made this a logical option.

When a student with an interrupted background is found to be below the grade level expectation, the question of 'cognitive gap' or 'educational differences' comes into play. A progressive curriculum does not recognize 'underperformance' as it is seen as immaterial educational difference between students. The 'educational difference', therefore, between students is of no material significance since each student is recognized as achieving his/her own standard, or at best progressing at their own pace.

The traditional curriculum, however, views the underperformance as an important educational gap, and thus seeks to remedy the gap through specific interventions. These interventions are then planned and implemented with the specific task of filling the cognitive gap with regard to the particular student. The intervention, therefore, becomes progressive in practice because it is individualized teaching, but finds its roots in the traditional approach of defining underperformance as a cognitive gap to be filled. The interventions are directly focused at the underperformance gaps – showing an enclave of progressivism within traditionalism that will not be found in progressivism due to the fact that progressivism will not recognize an underperformance gap needing to be filled. It seems that, when repair work is called for in an international school setting, a specific hybrid pedagogy becomes necessary.

The above four conclusions can be summarized to show that *time* and *cognitive demand* are essential in enabling underperforming students to 'catch-up'. Within each secondary conclusion, the elements of accumulated pedagogically-

engaged time and cognitive demand were the most likely factors that enabled students to make cognitive growth in reading competence beyond expected maturation.

6.2.4 Possible alternative explanations

In examining the evidence presented in Chapter Five, it is possible to surmise that the gains the students made in their reading level development were solely due to the pedagogically engaged time at home, and that the school – and thus curriculum – had little or nothing to do with the increase. While this might be a possible conclusion, it is unlikely that the specific, planned and formal interventions that were designed for the individual student at school had no effect whatsoever, and that the time spent at home was the only contributing factor to development. As the research for this study progressed, it became apparent that there were two mutually exclusive variables at work: interventions at school and independent reading at home. In order to determine which variable was more influential, a study entailing a direct comparison would be required. The scope of this study did not allow for such a comparison. Within this study, therefore, interventions and independent reading are concluded to have an effect on cognitive development, but the extent to which each variable affected cognitive development is beyond the research parameters of this study.

6.3 Connections to the literature

This section summarizes the connections between the conclusions drawn in the previous sections and the current literature basis for this study. Making the connection between the study conclusions and the literature review allows for an understanding of how this study fits into the cumulative body of knowledge regarding interventions and independent reading amongst students with an interrupted educational background.

Based on the conclusions drawn from the Literature Review, it was assumed that formal pedagogically-engaged time in schools, in the form of interventions, would most likely be found in a school implementing a traditional curriculum. Hirsch (2001) commented that the analytical and explicit instruction found in traditional curriculum works better for most students than the inductive and implicit instruction

found within progressive curriculum. This notion that explicit and directed teaching can be designed to bring about specific cognitive gains was affirmed by several researchers. While specific researchers discussed the debate between minimal guidance and directed instruction, such authors as Chall (1967), Mayer (2004), Barone (2003), Adams and Osborn (2006), Gaskins (2003) and Cunningham et al (2003) all cited explicit, systematic and targeted instruction as the basis for a reading program to bring about best results. In contrast to the educational gains associated with directed teaching, Chall (1967) noted that minimal guidance produced small or no gains – thus implying that directed teaching brought about gains. Mayer (2004) concurred, maintaining that minimal guidance does not provide directed instruction, and that the directed instruction of classical education resulted in targeted learning.

Research from Chall and others suggests that the best reading program comes about from a blending of phonics reading instruction and whole-language instruction (Chall, 1967; Chall and Popp, 1996; Stahl & Duffy-Hester, 2006; Teale and Youkoto, 2000). Rather than using only phonics reading instruction or only whole-language, having a base of phonics reading instruction and using key elements of a whole-language approach is preferred. In this way, phonics instruction becomes the core of the instructional program, but components of the whole-language theory are incorporated into the reading program. The evidence, from the literature seems to suggest that in order to prevent underperformance in reading, a reading program that is phonics based, yet incorporates elements of a whole-language approach is best for students.

Chall (2000) noted that classical pedagogical means had a greater concern for acquisition of knowledge and skills. As discovered by many reading researchers, these directed pedagogical methods resulted in an increase in reading development. Barone (2003), Chall and Popp (1996), and Adams and Osborn (2006) all cited systematic and explicit teaching as showing the strongest and most enduring advantages within the area of reading. This type of instruction is the method by which interventions as a means of a repair system at school arise.

The use of interventions is explicitly designed for impact on individual students. Cunningham and Allington (2003) found that directed and targeted individual interventions, along with small group instruction and one-on-one tutoring were all factors in the development of individual students in making developmental achievements. Furthermore, Bernstein's (1990) observations regarding repair systems

indirectly supports the conclusion that interventions are crucial in developing the underperformance associated with an interrupted educational background.

This study's results suggested that time and cognitive demand were the most important factors in determining reading development. Regardless of educational background, it was plausible to conclude that interventions impacted positively on cognitive development. This adds to the body of knowledge of repair systems, namely, that pedagogically-engaged time will allow for developmental growth in those students that have an interrupted educational background.

Furthermore, Hirsch (2006) contends that for those students that are disadvantaged in their educational background, the support that is received at school through the use of interventions allows a means of narrowing the academic gap that exists between interrupted and uninterrupted students. Hirsch (2006) recognized the gap that existed between these two groups of students, and thus saw the importance for implementing interventions targeted at closing the underperformance gap. Ball's (2003) views follow on Hirsch's as he saw that parental involvement at home in creating an infrastructure for learning at home was critical to the overall cognitive development of the student: "These (informal pedagogically-engaged activities) brought in supplement work to fill in for the shortcomings" (Ball, 2003). Therefore, Hirsch contended that formal intervention were needed in school, while Ball added the idea of informal pedagogically-engaged activities at home, thus creating a need for both formal and informal pedagogically-engaged time – stemming from both school and home. This creates the intertwining of two critical strategies (formal and informal pedagogically-engaged time) for the child with an interrupted educational background.

This cooperation between home and school was put forward by Gaskins (2003) as one of the twelve essential elements for successful classrooms and student development. Along with home-school connection, Gaskins cited instruction, support, and continual practice as other means for creating a thriving classroom (Gaskins, 2003). These elements are in agreement with the findings of researchers cited earlier in this section.

The educators reviewed here have all presented support for the necessity of creating a repair system for students with an interrupted educational background. The type of repair system, the formal repair system through the use of a particular curriculum (interventions), and the need for informal pedagogically-engaged activities

at home (independent reading), have all been discussed as the key components in allowing interrupted students to succeed. The conclusions of this study seem to be in broad alignment with previous literature and research in the field.

6.4 Larger significance of the study to international elementary education

The conclusions of this study have proposed that time and cognitive demand are two of the most important determiners in reading development and that students with interrupted educational backgrounds need as much time as possible to make up for academic underperformance. Thus, based on the exiting literature and support for the first hypothesis in this study, it is logical to surmise that students with an interrupted educational background should probably best be educated in a traditional based curriculum that allows for and implements targeted pedagogically-engaged time as a means of filling those deficiencies.

For those students that receive both formal (school-based) and informal (home-based) pedagogically-engaged time, it seems that their development will occur faster, as compared with students with only formal or only informal pedagogically-engaged time. Thus, all things being equal, it is plausible to surmise that the more time, the more success there is likely to be in making up for reading underperformance.

The type of curriculum employed by a school seems to have a direct impact on the use of formal pedagogically-engaged time resulting in interventions. As already concluded, in those students with an interrupted educational background, pedagogically-engaged time is a major factor in determining development. A curriculum, therefore, that allows for, and implements, interventions should most probably be in use in schools with interrupted students. It seems logical to surmise from current literature and findings in this study that international schools that have students with interrupted educational backgrounds should use a traditional curriculum or at least the central element of such a reading curriculum. This type of curriculum hybrid thus provides many of the key components for interventions as a means of a repair system for interrupted students.

A curriculum that does not allow for targeted pedagogically-engaged time, such as a progressive curriculum, may put interrupted students at risk of making up the cognitive deficit and underperformance in a more time-consuming manner. Yet a

curriculum that does allow for targeted pedagogically-engaged time will likely enable interrupted students to make up the deficit quicker – since such a curriculum will most likely allow the students to take part in interventions during the school day,.

If the school's curriculum is not designed to allow for interventions, then all activities that enable pedagogically-engaged time must take place at home or in extra lessons. If the school's curriculum, however, does allow for interventions, then there will be a combined effort between the school and the home to provide the necessary pedagogically-engaged time that will enable those students to make cognitive gains, and remedy underperformance. As evidenced in Jason's case, students with a compounded interrupted background (created by transferring to and from different schools with different curricula) will need more time to fill gaps than those students with less of an interrupted schooling career.

It must be noted that the above is only inferred from the data presented in this study. The data within this study shows that given a particular curriculum (traditional) and pedagogically-engaged time it seems likely that the students will make-up the underperformance in their cognitive development. It can be speculated that if the interventions that took place at school were to be removed, then the development would be slower due to the fact that fewer interventions were given to the student, as the variable of time is negatively affected. The data presented in this study is not, therefore, conclusive in this manner, but it does provide grounds for speculating that for interrupted students, a traditional curriculum might be preferable.

Furthermore, this study concluded that the more pedagogically-engaged time a student receives, the greater the cognitive development. Thus, there is an implication for the families of interrupted students as well as for the school. Families of interrupted students should be aware that that the habitual use of independent reading will enhance their student's cognitive development and reduce underperformance. The connection and accumulation of pedagogically-engaged time between the home and school should not be overlooked. The results of this study show that regardless of educational background, all students benefited from independent reading. Although all parents that desire to see their child increase in cognitive development should encourage independent reading at home, those parents of children with an interrupted educational background should make independent reading a priority in order to fill the gaps in underperformance that exist in their education due to their interrupted education.

6.5 Recommendation for further scholarship

This study focused on the effects of pedagogically-engaged time on reading level development. The main conclusion, that a combination of pedagogically-engaged time at school (in the form of interventions), and at home (independent reading) showed the greatest gains in reading level development, has implications for both international elementary schools and transient families. Although this study shed light on one factor of school-home connections, there are many other facets of this area that could be studied.

Ideally, this study would have been conducted over a longer period of time and with more participants. A study conducted over at least one full school year, and incorporating a larger number of student participants, would allow for a greater understanding and substantiation of these tentative research conclusions. Although many of the finer details of the study, such as the in-depth student profiles, might not be possible with a greater number of participants, the large amounts of quantitative data, such as pedagogically-engaged time and the DRA tests results, would create more substance in the conclusions.

As discussed in earlier Sections 6.2.4 of this chapter, this study did not differentiate between the impact of interventions and independent reading at home. This study rather combined the amount of total pedagogically-engaged time to make inferences as to the total pedagogically-engaged time experienced. In order to flesh out the effect of these independent variables, a study that controls one of these variables would be able to distinguish which variable actually has a greater impact on reading level development.

Other avenues of further study would be to conduct the same type of reading development study at both a school that holds to a progressive curriculum and a school that holds to a traditional curriculum. A study of this nature would allow for a better understanding of how a progressive curriculum and traditional curriculum cope with students of interrupted educational backgrounds.

This study has offered some evidence for the importance of pedagogically-engaged time on reading level development. Further studies, however, as outlined above, would allow for a greater understanding of the connections between interrupted students, schools and home within the international elementary school context.

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Appendix A:

School Comparison Study: Research Design and Methodology

As noted in Chapter Three of this thesis, the Research Design and Methodology of the School Comparison Study was too comprehensive and detailed to be included with Chapter Three. This appendix “School Comparison Study: Research Design and Methodology”, therefore, presents the research design and methodology employed in the School Comparison Study. The research presented within this appendix strives to present an understanding of the finer details of the School Comparison Study. The methodology employed in this section allowed for the surmise that the American International School of Cape Town (AISCT) followed a traditional curriculum, while the Washington International School (WIS) followed a progressive curriculum. The outcome of this study was the basis upon which the Reading Progress Study was conducted at the American International School. The following areas of research design and methodology are presented in Appendix A:

- Measurement
- Sample design and sampling methods
- Data collection methods and fieldwork practices
- Data capturing and data editing
- Data analysis
- Limitations and sources of error

1. Measurement

This section explains the measurement techniques used in the determining the key variables in the School Comparison Study. The School Comparison Study sought to establish the curriculum tendencies between two schools that were, at the outset, speculated to employ different curriculum theories. The main goal of the School Comparison Study was to ascertain which school tended towards a more traditional curriculum, and hereby establish a location for the Reading Progress Study.

In order to measure the key variables in the School Comparison Study, a speculative scale of curricula comparison was employed. The key variables come in the form of sixteen curriculum design questions. These design questions were used to determine trends in curricula. The sixteen design questions, therefore, served as the

key variables, while the Design Question Quantifier (DQQ)³⁷ served as the instrument that qualified the traditional and progressive tendencies of the schools.

1.1. Key Variables

The key variables of the School Comparison Study came in the form of sixteen design questions. These sixteen design questions were defined by Chall to give an understanding of how a fully traditional and fully progressive curriculum is evidenced in schools (Chall, 2000). The design questions took into account the major components of a curriculum. The sixteen design questions were:

- What should be learned in school?
- What should be emphasized- product or process?
- Specific versus integrated content;
- What should the curriculum be?
- How students are perceived
- Moral development
- Standards and assessment
- Attitudes toward individual differences
- Optimum level of difficulty for learning
- Grading and Report cards
- Promotion
- Attitude toward use of textbooks and other teaching materials
- How student difficulties are explained and treated
- Discipline
- What is the teacher's educational background?
- Should schools focus on affect and motivation or knowledge and the intellect? (Chall, 2000)

As any given curriculum can be found to have both progressive and traditional components, the design questions functioned as individual variables to show where in the curriculum spectrum, ranging from fully traditional to fully progressive, a school existed (Chall, 2000). The individual variables, or design questions, were used to determine the tendency of a curriculum, leaning towards either traditional or progressive. The summative information collected from the individual design questions then pointed to an overall curriculum tendency. Thus, taken together, these sixteen design questions identified the tendency of the entire curriculum as either traditional or progressive.

³⁷ Table 2

In order to intelligibly compare the two schools' curricula against the sixteen individual design questions as outlined above, benchmark answers³⁸ for each of the latter questions – as defined by Chall (2000) – were used to highlight the tendency of each school's curricular when compared with the answers given by the schools. These benchmark answers were held as the standard by which AISCT and WIS were said to tend toward either a traditional or progressive curricula. This comparison of the sixteen design questions is found in Appendix C “Comparison of Design Questions between AISCT and WIS”. As this section is too large to include in this Appendix section, only the first design question is reproduced for a better understanding of the measurement techniques.

	Traditional (AISCT)	Progressive (WIS)
Benchmark Answer by Chall	Design Question 1: What should be learned in school?	
	Knowledge from the past, present and foreseeable future; skills important for the individual and society. A core curriculum based on the traditional disciplines of reading, writing, literature, mathematics, science, social studies, and art-arranged in an increasing order of difficulty	School learning should be based on the learner's interests and needs. Theoretically there is no required core curriculum that is arranged hierarchically. Subject matter is not structured. The emphasis is on the learning process and on a variety of subjects that are integrated to make them more meaningful.
Answers by schools	The core curriculum is based on traditional subjects of Language Arts (encompassing reading, writing, and spelling), Science (Life, Earth, Physical, and Chemical), Social Studies (Geography, History, and Society), Mathematics, and Second Language instruction. The curriculum is designed hierarchically, and with increasing order of difficulty.	The school has developed a curriculum that is based on learning outcomes for English, Language, Mathematics, Science, Social Studies and Transdisciplinary Skills (social skills, communication skills, thinking skills, research skills, and self-management skills). The curriculum is formulated from the PYP Program of Inquiry- based on the six areas of inquiry: Who we are; Where we are in place and time; How we express ourselves; How the World Works; How we organize ourselves; Sharing the planet. The subject matter is somewhat

³⁸ Chall (2000) does not refer to the answers to the design questions as 'benchmark answers' but rather uses these 'benchmark answers' as a response answer of the questions. Within this study, the term 'benchmark answers' is used as a standard against which the schools' comments/answers, regarding their curriculum, is measured.

		hierarchically organized, but not across all subjects. The learning is based on the students' interests, but follows a set curriculum. Movement of study within an area of inquiry is allowed for, as the basis of the unit is outlined, but the details of the unit are not. There is a great deal of emphasis on the learning process. All subjects are as integrated as possible. Mathematics is not as integrated as the school would like to see, but where it can be integrated into the inquiry unit, it is.
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1.2. Unit of measurement

Through the above chart, the evidence is given for how closely AISCT and WIS fit the benchmark answers for each design question. This evidence, however, is somewhat 'rough' since the benchmark answers do not allow for the tendency to be measured with any degree. In order provide some measure of degree for the actual tendency of the schools' curriculum toward either progressive or traditional, a unit measurement was introduced to quantify the design tendencies of the schools curricula.

To this end, the "Design Questions Quantifier" (DQQ) was created, which took the form of a scale.

Scale Points:	Tendency:
1	Fully Traditional
2	Tendency towards traditional
3	Middle ground with aspects of both traditional and progressive
4	Tendency towards progressive
5	Fully Progressive

Table 2: Design Questions Quantifier

As traditional curricula and progressive curricula can be viewed as opposite ends of a curriculum spectrum, the DQQ indicated the degree of tendency of each of the schools' curriculum with regard to each benchmark answer. The DQQ was applied to each of the benchmark answers in the following manner:

- A fully traditional benchmark answer was given 1 Point: the school met all of the points in the benchmark answer for a particular design question
- A tendency towards a traditional benchmark answer was given 2 Points: the school primarily met all of the points in the benchmark answer for a particular design question, but it did incorporate one or two aspects of a progressive benchmark answer
- Equally traditional and progressive benchmark answer was given 3 Points: the evidence from the school showed that the design question equally implemented the benchmark answers for both traditional and progressive
- A tendency towards a progressive benchmark answer was given 4 Points: the school primarily met all of the point sin the benchmark answer for a particular design question, but it did incorporate one or two aspects of a traditional benchmark answer
- A fully progressive benchmark answer was given 5 Points: the school met all of the point sin the benchmark answer for a particular design question

Using the design questions and their respective progressive and traditional benchmark answers, together with the DQQ, a school that fulfilled all of the benchmark answers for a traditional curriculum would earn a score of 16: 1 Point for each of the sixteen design questions. A school that met all of the benchmark answers for a progressive curriculum would earn a score of 80: 5 Points for each of the sixteen design questions. Any total of points earned between 16 and 80 would show either a tendency towards one curriculum type, or would show an equal balance between a traditional and progressive curriculum (48 Points). In turn, this determined the curriculum tendencies of the two curricula being compared, in order to establish a location for the Reading Progress Study.

2. Sample Design and Sampling Methods

2.1. Sample Design

Two schools with different curricula needed to be studied in order to accomplish two goals: first – to formulate an understanding of how progressive and traditional curriculum types fulfils the design questions in current international elementary schools; and second – to establish one elementary school that tended

towards a more traditional curriculum so that the Reading Progress Study could then take place at that institution.

The literature review, in Chapter Two, suggested that a school that implements a traditional curriculum is more likely to implement interventions. As this study desired to understand the effect of pedagogically-engaged time, including interventions, a school that was found to employ a traditional curriculum was necessary. The main thrust of the School Comparison Study was to establish the design questions of both a traditional and progressive curriculum in order to then ascertain one school that used a more traditional curriculum. In this way, the school with the traditional curriculum could then be used as the site for the Reading Progress Study to understand the effects of pedagogically-engaged time. Without an establishment of curriculum type, the selection of a school for the location of the Reading Progress Study would have been haphazard.

2.2. Sampling Methods

Now that an understanding of the Sample Design has been given, an understanding of the Sampling Methods will be explained. In this section, the methods utilized in the classification of both the American International School of Cape Town (AISCT) and the Washington International School (WIS) as either progressive or traditional, are discussed.

Two schools with differing curriculum ideologies were needed for an establishment of a traditional curriculum school for the Reading Progress Study. Based on preliminary research, it was decided that a comparative study between one school within the International Schools Development Foundation, and one school within the International Baccalaureate Organization should be used. Due to research and travel constraints, it was decided that comparing one school from each organization would be more conducive to the research parameters and capability of the author, although each of these organizations did have more than one school within their organization.

International Schools Development Foundation:

The decision to use one school within the International Schools Development Foundation (ISDF) was based on fact that this organization sought to educate students across the globe in an international school setting. Through an initial and preliminary scan of key factors (such as the mission statement of the school, methods of grading, use of textbooks, and teaching of individual subjects in specific time blocks (Chall, 2000)), the ISDF schools seemed to tend towards a more traditional stance toward curriculum development and implementation. Within the International Schools Development Foundation (ISDF), the American International School of Cape Town (AISCT) was chosen for this comparison study on the basis of an initial review of the design questions of the school and study constrains.

American International School of Cape Town:

AISCT was chosen for the comparative study for numerous reasons. First, AISCT sought to educate students by implementing an American based curriculum with an international educative focus. Second, a high percentage of AISCT students were interrupted in their education history, possibly allowing for an interrupted population of students to take part in the Reading Progress Study. Third, the students attending AISCT had the benefits of previously attending reputable schools that offered a high level of education, yet the students missed key curricular components due to their transient nature. Fourth, AISCT was a willing participant in this study. The school recognized the problems of seeking to offer a high level of education that takes into account students that are both interrupted and uninterrupted in their educational history.

The International Schools Development Foundation (ISDF) was a consortium of schools led by three executive members comprising the Governing Board of Directors: Lawrence L. Balli, Michael S. Dougherty and Kristy D. Seng. These directors were sole proprietors of the ISDF, although this Foundation was a not-for-profit organization. At the time of this study, ISDF owned schools in Jakarta, Singapore (North Jakarta International School), Shanghai, China (Shanghai Community International Schools: Pudong International School; Hogquiao International School; Hangzhou International School), and Cape Town, South Africa

(American International School of Cape Town). Each school implemented an American based curriculum within an international school community. The North Jakarta International School and the American International School of Cape Town had students from the host country, as well as from various other countries. The ISDF schools in Shanghai were not able to enroll students from the host country of China, because China's education laws prohibited its citizens to attend non-governmental schools.

At all of the ISDF schools, the curriculum was based upon a traditionally American curriculum, with the vast majority of text books and curriculum programs from publishers based in the United States. Although ISDF did not have a set curriculum for the schools, and allowed each school to implement educational programs that were deemed appropriate for each individual school, the ethos of the curriculum remained the same throughout each ISDF school. The Board of Directors made frequent connection with principals of the schools to ensure that a high standard of international education was being taught at the schools. Furthermore, each ISDF schools was accredited by the Western Association of Schools and Colleges. The establishment of the ISDF schools as accredited and reputable schools enabled anyone of their schools to be a part of this study.

For reasons of practicality and location, the American International School of Cape Town (AISCT) was chosen as the comparison school from the ISDF schools. AISCT was established in 1997, as a small, independent, international school in Cape Town, South Africa. Throughout its years of existence, the school developed into a well recognized school in Cape Town and throughout South Africa. AISCT was the only school in Cape Town that provided an American-based curriculum, and followed a northern-hemisphere schedule; the latter being conducive to the interrupted population of the school. The school's population roughly comprised 25% South African citizens, 25% American citizens, and 50% other. The students represented more than thirty different countries. On average, the school experienced a semester turn-over rate of approximately 11%. Of the approximately 200 enrolled students, the majority of the students were expected to remain at the school for approximately two to three years.

Parental employment for American interrupted students was generally connected to the United States State Department, United States Consulate in Cape Town, or based with one of the major oil companies, including Shell and Chevron.

There were two students at the school that spent six months of the year at AISCT, and six months of the year at an elementary school in the United States, as their parents' jobs require six months on both continents. The 50% of students that were international either followed the two to three year trend or became more permanent students at the school. This was dependent on parental employment. The South African students were the most permanent students. These students were from the wealthier families in Cape Town, as AISCT was, at the time of this study, the most expensive school in Cape Town. South African families tended to send their children to AISCT because they desired their children to be exposed to an American-based curriculum, pedagogical position, small class size, and an international setting.

From the above statistics, it is possible to infer that the majority of the students attending AISCT were generally from financially established families. These students were provided with the best possible educational experience possible, although a high percentage of these students had attended several different schools, in several different countries, with several different curricula.

International Baccalaureate Organization:

As with the selection process regarding the ISDF curriculum, the International Baccalaureate Organization Primary Years Program (IBO PYP) curriculum was chosen using an initial scan the mission statement of IBO PYP, its methods of grading, its use of textbooks and teaching of individual subjects in specific time blocks were examined for the IB PYP system as a whole (Chall, 2000). Within the IB PYP schools, a school that was similar to AISCT in student body make-up was needed for the comparative study. While both schools would comprise students facing the same educational challenges (having an interrupted educational background), the schools they attend would take a different stance on curriculum theory and implementation. The curriculum differentiation created the means by which the control measures of educating the same type of students could be held, while at the same time measuring the variable of vastly different curriculum types. In order to compare AISCT with an appropriate IBO PYP school, the Washington International School (WIS) in Washington, DC was used.

Washington International School:

The Washington International School was located in Washington, D.C., United States of America. WIS was the longest standing participant of the IBO curriculum in the United States of America, and fit the parameters of educating similar students as AISCT. In examining the mission statement of the school, its methods of grading, its use of textbook and the teaching of individual subjects (Chall, 2000), it was initially determined that the Washington International School was likely to tend towards a more progressive curriculum. Therefore, the Washington International School was then used as a comparative with AISCT.

WIS was chosen as one of the schools in the comparison study for the same reasons as AISCT. First, WIS sought to educate students with an internationally based and recognized curriculum. Although the curriculum was not based in traditionally American curricular standards, the school was located within the United States, which allows for a similar student body and motivation for attending the school as AISCT. Second, a high percentage of WIS students were interrupted in their education history. Third, the students attending WIS had the benefits of attending a reputable school that offers a high level of education, yet the transitory students missed key curricular components due to their transient nature. Fourth, WIS was a willing participant in this study. The school recognized the problems of seeking to offer a high level of education that takes into account students that are both interrupted and uninterrupted in their educational history.

The International Baccalaureate Organization was established in 1968 after the Copenhagen International School in Denmark sought to create a school in which expatriate families could educate their children in an international setting, while not aligning the curriculum with any one state government. “IB programs assist internationally mobile parents to educate their children and provides an interesting alternative in schools in some national systems but it does not supplant any national system” (Hill, 2006). The initial goal of the IBO was to provide the “global and international student” with an education that taught active, interested, committed and humane theory of education, with the secondary objective for higher education preparation (Keson, 2005).

The IBO has since grown to a highly recognized system of education that is used in international and state schools across the world. The IBO first developed the

Diploma Years Program (DYP) for students in grades nine through twelve. In March 2006, the DYP program was used in 1,373 schools in 121 countries (Hill, 2006). This high school equivalent degree was recognized by tertiary schools as a high level of academics was accomplished by the student. The Middle Years Program (MYP) was further created to allow students in grades six through eight the benefit of preparation for the DYP program. In 1997, IBO began offering the Primary Years Program for children ages three to eleven (grades pre-kindergarten through fifth grade) (Hill, 2006).

The PYP program focused around six major themes:

- Who we are
- Where we are in time and place
- How we express ourselves
- How the world works
- How we organize ourselves
- Sharing the planet (www.ibo.org)

Each grade level completes units of study based around these six themes. These six themes “provide the framework for exploring traditional subject areas through transdisciplinary units of study with titles such as ‘children’s rights’ and ‘fresh water in the developing world.’ The emphasis is on inquiry and the approach is holistic. Identified concepts, skills, attitudes, action, and knowledge provide the structure for purposeful exploration” (Hill, 2006). The main goals of the IB PYP program were to establish, at the beginning of any schooling, a need for an understanding of a global community and individual student’s interactions and responsibilities towards that global community (Hill, 2006).

The Washington International School was the first school in the United States to implement the IB program (Darling, D. & Reily, L., interview, 19 June 2007). WIS began using the IB DYP in 1975, becoming one of the first sixty schools in the world to use the IB program (www.wis.edu). In 1999, the IB PYP was approved at WIS. At the time of this study, WIS educated 446 students in the PYP program (Darling, D. & Reily, L., interview, 19 June 2007). WIS was committed to providing a high level of education based upon the IB format of education. WIS faced the difficult challenge of interrupted students as 100 out of the total 446 students in the academic year 2007 to 2008 were new to the school (WIS 2007/08 enrolment planning document). The other 346 students were considered permanent in their schooling and were termed “lifers,” as these students often started the IB program at WIS in pre-kindergarten,

and graduated from the IB DYP program in twelfth grade, thus earning an IB Diploma.

Students attending WIS represented many different countries. One-third of the students had parents that were both American; one-third of the students had one American parent and one non-American parent; and the other third of the students had parents that were non-American. Students at WIS came from families that were involved in many different types of government: from the United States government to international embassies located within Washington, D.C. Aside from those students connected to non-American governments, the main reasons that parents sent their children to WIS was because of their unique style of international education and their progressive pedagogical techniques (Darling, D. & Reily, L., interview, 19 June 2007).

Achieving School Comparison Study Goals:

The design questions given by Chall in her book *The Academic Achievement Challenge* (Chall, 2000) outline the specific differences between schools that adhere to a progressive or traditional curriculum. In using Chall's outline, the two schools, WIS and AISCT, were compared and contrasted using the design questions. By using the sixteen design questions, the first goal of the School Comparison Study was fulfilled – to establish the differences between a traditional and progressive curriculum. Furthermore, not only did the use of the design questions serve to determine the curriculum types of AISCT and WIS, it also established which school tended towards a more traditional curriculum and thus could be used in the Reading Progress Study regarding the influence of pedagogically-engaged time.

2.3. Strengths of Design Methodology

The methodological strengths and advantages of the School Comparison Study design lie within the focused nature of the means by which the qualitative data was gathered. The School Comparison Study – which, in turn, led to the deciphering of a more traditional curriculum, and thus to the location of the Reading Progress Study – was conducted at two international schools through face-to-face interviews. This

small and personal qualitative research allowed for an establishment of the following methodological strengths:

- The comparison of only two schools data resulted in quality of data gathered – giving an in-depth insight into the curriculum philosophy held by each school
- Rapport and trust was created between the researcher and the administration and teachers at the two schools – allowing for credibility of evidence
- The face-to-face interviews gave insider perspective on the fundamentals and inter-workings of the curriculum at each school
- A collaborative and participatory environment was created as the researchers and administrations at the schools worked together to gather documentation regarding curriculum specifics
- The establishment of the ability to approach the schools regarding further gathering of data as necessary
- A high level of flexibility was created within the small and personal nature of the research, which lent itself to an exploratory study of this nature.

3. Data collection methods and fieldwork practices

Introduction:

The goals of the School Comparison Study included gaining access to information that would lead to an understanding of the use of specific design questions. This would in turn indicate if a curriculum tended towards being either traditional or progressive. Therefore, the goal of the fieldwork was to attain specific documentation and information regarding the sixteen design questions used as key variables within this section of the study. The sixteen design questions, as outlined in Section 1.1, were the means by which specific information was gleaned from both AISCT and WIS in order to assess curriculum tendencies.

This section outlines the mode of observation used in the fieldwork practices, as well as how access to both schools was gained. Furthermore, the specific data collection procedures and techniques employed in the School Comparison Study are explained for both AISCT and WIS.

3.1. Mode of observation

The specifics of gathering data at each school location will be explained in Section 3.3 of this appendix. The overarching mode of observation used at both schools was the same. Qualitative and participatory methods were implemented using a structured interviewing process. The interviews were designed to gather unambiguous information that would result in evidence for the evaluation of the sixteen design questions. Prior to conducting each interview, the interview questions were designed to target the sixteen design questions- resulting in qualitative data. As the interviews were conducted, however, on a face-to-face and personal basis, there was also a participatory measure of the interviews that allowed for the gathering of documentation and information not planned prior to the interview.

3.2. Gaining Access to Schools

In order to gain access to the evidence that would support the trends in a curriculum, two schools that fit initial criteria for tending towards a more progressive or more traditional curriculum needed to be found. In Section 2 of this appendix, the sample design methodology was explained of how the two schools, the American International School of Cape Town (AISCT) and the Washington International School (WIS) were chosen for this study. This section outlines the process by which permission was gained to use these schools in this study, as well as how the documentation and evidence regarding the curriculum design questions was gathered.

American International School of Cape Town:

The principal at AISCT, Mr. Ryan Blanton, was approached in December 2006 in order to determine a willingness to participate in a study of this nature. A verbal agreement of approval and willingness to help in any way possible was formally extended by the school. Furthermore, access to any published or unpublished school documentation regarding the curriculum and the educational files of students participating in the study (in conjunction with parental consent) was given.

Washington International School:

The granting of permission and access to interviews and documentation at the Washington International School followed a different pattern than that at AISCT. WIS itself was originally found on the International Baccalaureate Organization's website. As explained in Section 2.2 of this appendix, WIS was asked to be a part of the School Comparison Study for a number of reasons. WIS was contacted through an email, in April 2007, to the then principal of WIS, Ms. Melody Meade. Through a series of emails, WIS agreed to participate in the School Comparison Study. Furthermore, the Primary Years Program Coordinator, Ms. Dawn Darling, and the upcoming assistant principal, Ms. Leah Reily, agreed to meet for an interview on June 19, 2007.

3.3. Data Collection Process and Techniques

American International School of Cape Town:

During the time period of December 2006 through June 2006, the following sources of documentation were gathered from AISCT:

- Curriculum documents
- Report cards
- Expected School-wide Learning Results
- Mission statements
- Textbook inventory lists
- Teacher resources inventory from

Furthermore, the following interviews took place at AISCT:

- Interview with the principal
- Interviews with teachers
- Background check on teacher educational level from principal
- Interview with English-as-a-Second-Language teacher

These interviews also took place between December 2006 and June 2007. All of the interviews took place at AISCT in either the principal's office, or the individual teachers' rooms. The specific teachers that were interviewed through conversational means included the first, second/third, fourth, fifth and sixth grade teachers. The primary concern in speaking with these teachers was to establish if, indeed, they noticed a difference between the students that had attended AISCT for two or more

consecutive year, and those students that were interrupted in their educational background.

The sources of information gathered from AISCT substantiated the evidence used in determining AISCT's curriculum tendencies. The accumulation of the above documents, together with the information gathered through individual interviews, allowed for an assessment of how AISCT curriculum tendencies. The goal in the accumulation of the above evidence was to evaluate the design questions. This goal was met by the gathering of this evidence.

Washington International School:

During the interview on June 19, 2007, the Primary Years Program Coordinator (Dawn Darling) and the upcoming assistant principal (Leah Riley) provided documentation and answers regarding the sixteen design questions. As with AISCT, the questions and documentation requested from WIS was specifically geared at determining WIS' curriculum tendencies. The following documentation was collected at the interview which took place at WIS on June 19, 2007:

- Curriculum documents
- Interview with PYP Director and Assistant Head of school at WIS
- Report cards
- PYP Program of Inquiry
- Interviews with first and second grade teachers
- PYP requirements for curriculum
- Mission Statement and Core Values of IBO
- Requirements of PYP program as outlined by IBO
- Textbook inventory lists
- Teacher resources inventory
- Discussion and documents from Reading Recovery interventions teacher
- Background check on teacher educational level from principals at both schools

The evidence gathered from the documentation and interviews at WIS enabled an assessment and measurement of the curriculum tendency of WIS. The fieldwork and data collection methodology took place in order to fulfill the goal of collecting evidence specifically aimed at the sixteen design questions for curriculum.

4. Data capturing and data editing

Introduction:

The data gathered in the School Comparison Study ranged from published and unpublished school documents to individual interviews with teachers, principals and PYP coordinators. The data gathered was textual: documentation or written interviewing notes. This textual data, therefore, was translated and edited into tables to compare and contrast the findings. In order to do this, the raw data was summarized through the means of three tables:

- Table of Sources Used in Determining Design Questions at AISCT and WIS (Table 6)
- Comparison of Design Questions between AISCT and WIS (Appendix C)
- Summary of Design Questions of AISCT and WIS (Table 7)

The creation of these the above are explained in this section. This section discusses three main components: the capturing and editing of data, post-coding procedures and the minimization of error.

4.1. Capturing and Editing Data

The main thrust behind the School Comparison Study was to gain insight into specific design questions of curriculum in schools that implement a traditional or progressive curriculum. In order to compare and contrast, and ultimately determine the curriculum trends in two specific schools, two tables were created. Table 6, “Table of Sources Used in Determining Design Questions at AISCT and WIS”, outlines the sixteen design questions of curriculum and compares the sources that were used at AISCT and WIS. Section 1.1 of this appendix, explained the rationale behind the use of these sixteen design questions. Therefore, the explanation of the creation of this table will exclude a discussion on the relevance and reasoning of using these specific design questions. The main purpose of Table 6 is to state the sources used in determining how AISCT and WIS matched the benchmark answers of a traditional or progressive curriculum.

The textual documentation and interviewing notes were examined through the sixteen design questions. Each design question was examined individually and the raw data that supported evidence for that design question was matched to the design question’s benchmark answer. In some cases, there were many different documents

that supported one design question. In other cases, such as the design question regarding report cards, only one source of documentation needed to be examined.

4.2. Post-Coding Procedures

The “Comparison of Design Questions between WIS and AISCT”³⁹ was the crux of the School Comparison Study. Not only is the interpretation of how AISCT and WIS fit into the model of a student-centered (progressive) or teacher-centered (traditional) method of curriculum implementation presented, but it also provides the benchmark answers of these design questions as written by Chall (2000). For each design question, Chall’s benchmark answer for teacher-centered and student-centered instruction was stated. Under each of benchmark answer, the explanation of how AISCT and WIS fit the design question is given. In order to assess and determine how AISCT and WIS fit the design question benchmark answers, the “Table of Sources Used in Determining Design Questions at AISCT and WIS” was implemented.

<i>Design question of curriculum – Chall</i>	<i>Sources Used at AISCT</i>	<i>Sources Used at WIS</i>
1. What should be learned in school?	Curriculum documents, interview with principal	Curriculum documents, interview with PYP Director and Assistant Head of school
2. What should be emphasized-product or process?	Report cards, Expected School Wide Learning Results (ESLRs)	Report Card, PYP Program of Inquiry, interview with PYP Director and Assistant Head of school
3. Specific versus integrated content	Curriculum documents, interviews with teachers	PYP requirements for curriculum, interview with PYP Director and Assistant Head of school
4. What should the curriculum be?	Interviews with teachers and principal, curriculum documents	Curriculum documents, interview with PYP Director and Assistant Head of school
5. How students are perceived	Report cards, interviews with teachers	Report cards
6. Moral development	ESLRs, Mission statement	Mission Statement and Core Values of WIS and IBO

³⁹ This table is located in the Appendix C

<i>Design question of curriculum – Chall</i>	<i>Sources Used at AISCT</i>	<i>Sources Used at WIS</i>
7. Standards and assessment	Report Cards, interviews with teachers on assessment standards	Report Cards, Requirements of PYP program as outlined by IBO
8. Attitudes toward individual differences	Interview with ESL teacher, principal and individual teachers, Mission statement	Mission Statement and Core Values of WIS and IBO, interview with PYP Director and Assistant Head of school
9. Optimum level of difficulty for learning	Curriculum documents, interview with teachers	Interview with PYP Director and Assistant Head of school
10. Grading and Report cards	Report cards	Report Cards
11. Promotion	Interview with principal, Report cards	Interview and email correspondence with PYP Director and Assistant Head of school
12. Attitude toward use of textbooks and other teaching materials	Textbook inventory, teacher resources inventory, teacher interviews	Interview with PYP Director and Assistant Head of school
13. How student difficulties are explained and treated	Interventions school employs to assist students, ESL teacher	Interview with PYP Director and Assistant Head of school, discussion and documents from Reading Recovery interventions teacher
14. Discipline	Interview with principal and teachers	Interview with PYP Director and Assistant Head of school
15. What is the teacher's educational background?	Interviews with teacher and educational background check on teacher educational level	Interview with PYP Director and Assistant Head of school
16. Should schools focus on affect and motivation or knowledge and the intellect?	Curriculum documents, mission statement of the school, ESLRs	Curriculum documents, Core Values and Mission of the IB PYP, interview with PYP Director and Assistant Head of school

Table 6: Table of Sources Used in Determining Design Questions at AISCT and WIS

For each design question, the corresponding documentation was examined. The answers to interview questions, curriculum documents, mission statements and the like were examined for specific reference to each design question. The table

regarding sources used in determining design questions points to the source, while the “Comparison of Design Questions between AISCT and WIS”⁴⁰ gives a textual summary of the documentation. According to this pattern, each of the sixteen design questions were summarized for both AISCT and WIS, based on the securitization of the sources listed in Table 6.

The final table relating to the School Comparison Study, “Summary of Design Questions of AISCT and WIS”⁴¹, displayed the comparison of how closely AISCT and WIS matched a fully traditional or fully progressive curriculum. The means of measurement and the scale by which this table was constructed finds its explanation in Section 4.1 of this appendix. Therefore, the way this table was used to rate the schools, rather than the rationale behind the construction of the scale are explained.

Design question:	AISCT	WIS
Design question 1: What should be learned in school?	1	4
Design question 2: What should be emphasized- Product or Process?	1	5
Design question 3: Specific versus Integrated Content	1	5
Design question 4: What should the Curriculum be?	1	5
Design question 5: How Students are Perceived	1	5
Design question 6: Moral Development	2	5
Design question 7: Standards and Assessment	2	4
Design question 8: Attitudes towards Individual Differences	1	5
Design question 9: Optimum level of Difficulty for Learning	1	4
Design question 10: Grading/Report Card	2	4
Design question 11: Promotion	1	5
Design question 12: Attitude toward use of textbooks and other teaching materials	1	4
Design question 13: How Students difficulties are explained and treated	1	5
Design question 14: Discipline	1	4
Design question 15: What is the teacher’s educational background?	3	3
Design question 16: Should schools focus on affect and motivation or knowledge and the intellect?	1	3
Totals:	21	71
Percentage of tendency towards either fully traditional or progressive:	84%	72%

Table 7: Summary of Design Questions of AISCT and WIS

⁴⁰ Appendix C

⁴¹ Table 7

In order to determine how closely each school fit the exact benchmark answer of a fully traditional or fully progressive design question, the “Comparison of Design Questions between AISCT and WIS” was used. The “Comparison of Design Questions between AISCT and WIS” and the “Annotated explanation of the School Comparison Study design questions”⁴² allowed for an analysis of how closely the AISCT and WIS documentation fit the design question benchmark answer. If the school’s summary of the design question fit exactly the design question benchmark answer, the school was said to match the design question exactly. Thus, the appropriate points were given based on the scale of tendency toward a fully traditional or fully progressive curriculum. If the school tended towards one benchmark answer, but had one or two elements of the other benchmark answer, it was said to tend towards one end of the spectrum, thus receiving the appropriate points. If the school equally incorporated the benchmark answer of both traditional and progressive, a score of three was give on the scale. Using the DQQ and the “Comparison of Design Questions between AISCT and WIS” and the “Annotated explanation of the School Comparison Study design questions”, each design question was given a score for both AISCT and WIS. The sum of the score was then calculated to determine how close each school came to being fully traditional or fully progressive in their curricula. The final step in the creation of this table was to determine the percentage by which AISCT and WIS tended towards a fully traditional or fully progressive curriculum.

The calculation of the percentage tendency toward either progressive or traditional curricula was calculated in the following manner: A total DQQ score was achieved by summing together sixteen (16) individual DQQ scores. Sixteen (16) was said to be fully traditional and eighty (80) fully progressive, with a score of forty-eight (48) in the middle (tending neither towards progressive or traditional). The range between the total DQQ score and the middle score of 48 was calculated. It was then divided by thirty-two (32), the range between the extremes and the middle: $(80-48 = 48-16)$. For AISCT, the calculation was: $(48-21)/32$, which equals 84% (rounding 84.375 to the nearest whole number). For WIS, the calculation was: $(71-48)/32$, which equals 72% (rounding 71.875 to the nearest whole number). AISCT therefore tends to 84% traditional, while WIS tends to be 72% progressive.

⁴² Appendix B

Each of the tables within the School Comparison Study built upon the previous table. The final table incorporated the data and documentation of the previous two tables. This was intended to show continuity and explain the methodology behind the data analysis from the raw data stage.

4.3. Minimization of Error

Throughout the data capturing and editing process, efforts were taken to minimize the error in translation of the data. As most of the data collected was in the form of textual documentation, questionnaires and interviews, special precaution was taken to avoid negative post-coding effects. Post-coding errors can occur when open-ended questionnaires are interpreted by the researcher. The efforts taken to minimize these types of errors are explained in this section. Furthermore, an explanation of how questions were designed to taken into account social desirability effects is discussed.

The raw data gathered through school and individual documentation, (such as students' previous school records and school curriculum documents, and data gathered from individual interviews and questionnaires) was edited into the tables as discussed in the previous sections. The design of the methodology behind the gathering the data was one of the major ways in which efforts were taken to reduce error in data editing. The methodology in gathering data, as explained in Section 2 of this appendix, outlined the specifics of how the data was gathered. These methods were implemented not only to gain access to certain forms of data, but also to prevent data editing errors after the data collection was completed.

The questions that were asked and the documentation that was gathered at WIS were specifically designed to gathering information regarding the specific sixteen curriculum design questions. Questions and requests for documentation regarding the sixteen design questions was specifically requested. Before interviewing its representatives and gathering school documentation from WIS, the goal to evaluate the school using on the sixteen design questions had already been achieved. When the interviews took place, therefore, that specific information was gathered. After completing the interviews and gaining access to the specific school documentation, converting that raw data into the tables could be completed with few errors. The use

of face-to-face interviews and specific school documentation, points to a minimization of error when translating into table format from raw data.

5. Data Analysis

Introduction:

This section discusses matters surrounding the analysis, rational and procedures within the data analysis process. Specifically, the means by which the data was analyzed are discussed, and interpretation of the data is presented. The primary goal of this section is to establish the means by which the analysis took place; the rational for those analysis procedures; the procedures themselves; and interpretations that can be drawn from the data analysis process.

5.1. Analysis

The School Comparison Study was based upon both qualitative and participatory data. This data was edited into one summative table entitled “Comparison of Design Questions between AISCT and WIS” (Appendix C). Appendix C was designed to give numerical substantiation to the qualitative and participatory evidence gathered through the School Comparison Study. As the qualitative data was captured in a speculative numerical form within this table, the data then became quantitative. Although the data was quantitative in form, it was not untimely conclusive, as the table itself was formulated upon textual and participatory evidence – rather than upon hard data. Within the table, the textual data gave indication for the numerical evidence, but generalizations and exact conclusions could not be made from the table. Speculation based on textual data in the form of numerical representation gives strong evidence for the tendencies of both the AISCT and WIS curricula towards that of progressive or traditional, but it is not conclusive.

Appendix B and Appendix C serve as the primary means by which the data was analyzed and interpretations formed. Before an explanation of the interpretations of the tendencies of curricula at AISCT and WIS can be given, the rational and procedure by which the data was analyzed will be offered.

5.2. Rationale

The rationale for the creation of the “Comparison of Design Questions between AISCT and WIS” table found its substantiation in the fact that the trends and relationships between each design question needed to be represented in a manageable and telling manner. The aim of the analysis was to understand the various elements of the data through an inspection of the relationships between the design questions of the two schools, and to see whether there were any patterns that could be identified to establish trends in the data.

Each design question needed to be compared and coupled with all other design questions to establish an overall curriculum tendency of AISCT and WIS. Therefore, the “Comparison of Design Questions between AISCT and WIS” presents the ways in which each design question meets or deviates from the progressive and traditional benchmark answers. Furthermore, each of these design questions was then contrasted between AISCT and WIS. Therefore, the various elements of each design question were compared and contrasted between both schools. This resulted in an emerging pattern of one school tending towards a progressive curriculum and one school tending towards a traditional curriculum.

5.3. Procedures

In order to analyze the edited data from the School Comparison Study, a scale needed to be developed to determine how closely AISCT and WIS came to implementing a fully traditional or progressive curriculum. The scale was created to give a numerical representation on how closely each school came to attaining the benchmark answer of a particular design question for either a traditional or progressive curriculum. The following scale was developed to give numerical representation:

Scale Points:	Tendency:
1	Fully Traditional
2	Tendency towards traditional
3	Middle ground with aspects of both traditional and progressive
4	Tendency towards progressive
5	Fully Progressive

Table 2: Design Question Quantifier (DQQ)

For each design question, there was a specific benchmark answer for a school that fully fit a traditional and progressive curriculum. The creation and rationale for this table can be found in Section 1 of this appendix, “Measurements”.

AISCT and WIS were individually compared against each design question to determine where the school fit on that particular design question’s continuum. This individual comparison gives a pinpointed specification as to where the school fit within individual design question, resulting in a focused understanding of where the school was progressive and where the school was traditional in its curriculum questions. Taken together, each of the sixteen design questions were then compiled into one cumulative score to show the overall tendency of the curriculum. This gave a holistic understanding of the curriculum tendency.

If a school was fully traditional – having all of the elements of the traditional benchmark answer for each design question – it would have a score of sixteen points (one point for each design question). If a school was fully progressive – having all of the elements of the progressive benchmark answers for each design question – it would have a score of eighty points (five for each design question). The purpose in the development and implementing of this continuum scale was to determine the tendencies of AISCT and WIS towards that of a traditional or progressive curriculum.

5.4. Interpretations

As mentioned earlier in this appendix, the quantitative data formulated from the qualitative evidence cannot suggest conclusive or formal generalization of the curriculum typology implemented at AISCT and WIS. However, the quantitative data is suggestive, allowing for a high likelihood of curriculum tendency.

In the table “Comparison of Design Questions between AISCT and WIS”, the quantitative data is presented. Within this speculative table, the evidence for AISCT’s tendency towards a traditional curriculum and WIS’ tendency towards a progressive curriculum is established. The point valuation given for each Design Question gives way to a cumulative score, thus revealing a tendency towards progressive or traditional curricula. As is revealed in the “Comparison of Design Questions between AISCT and WIS” table, AISCT was shown to be 84% traditional, and WIS was shown to be 72% progressive. Again, these percentages are not conclusive, but the data scrutinized through the speculative scale gives a high likelihood that the each school did tend toward a particular type of curriculum.

Given the evidence presented in the table above, the Reading Progress Study was then conducted at AISCT because the curriculum tended towards the traditional end of the curriculum continuum. As explained in the introduction to this section, the literature regarding interventions suggested that interventions are mostly likely found within a traditional curriculum. Therefore, the School Comparison Study revealed that the school that would most likely incorporate interventions was AISCT because of its traditional curriculum tendencies. Thus, the Reading Progress Study was based upon the findings and interpretations of the School Comparison Study.

6. Limitations and sources of error

6.1. Limitations

The design methodology of the School Comparison Study allowed for qualitative data in the form of textual evidence. This qualitative form of inquiry and research basis made it difficult to formulate quantitative data that was not speculative. Therefore, there was no quantitative data that was not formed from textual, qualitative data. Section 5 of this appendix discussed the implications and interpretations of the

data gathered and explained how that even though the quantitative data was speculative, it was highly suggestive based on the in-depth explanation and research into individual design questions at both AISCT and WIS.

The consequence of formulating quantitative data from textual, qualitative data results in a strong inference of data trends and interpretations, but is not conclusive. Therefore, the main limitations of the School Comparison Study are found in the speculative nature of the quantitative data derived from the qualitative evidence gathered.

6.2. Main sources of error

The main sources of error in the School Comparison Study can be broken down into two categories: the research constraints of gathering data in the qualitative research and the creation of quantitative data from qualitative evidence.

The qualitative research utilized many forms of textual and interviewing methods. The methods of gathering textual and interviewing data were explained in earlier section. Errors that are typically associated with interviewing basis and the lack of rigorous control measure in both the gathering of textual data and interviewing could have resulted in error. As the interviews were one of the sources by which information was gathered for the creation of the appendix “Comparison of Design Questions between AISCT and WIS”, the interviewing basis and human error could have contributed to skewed data. Although steps were taken to ensure a minimization of error, it was possible that this could have been a source of error.

As noted in the previous section, the limitation of deriving quantitative data from qualitative evidence gives way to a possible source of error. As the quantitative data could only be gathered and formulated from speculation, it was possible for error in formulation of the “Comparison of Design Questions between AISCT and WIS” could have arisen. The evidence for each design question was based upon specific qualitative evidence, nonetheless it was speculative.

Appendix B:

Annotated Explanation of the School Comparison Study Design Questions

What follows is an in-depth explanation of how AISCT and WIS were assessed when measured against the sixteen curriculum design questions outlined by Chall (2000). As explained in Appendix A, these design questions, together with their respective traditional and progressive benchmark answers⁴³, distinguish a traditional curriculum from that of a progressive curriculum. Within this section, AISCT and WIS are compared against each of the sixteen design questions, and determined either to be an exact fit, tending towards the definition, or not fitting the definition at all. From this analysis of the design questions, the tendencies of AISCT and WIS towards that of either a progressive or traditional curriculum were surmised and put into point valuation using the Design Question Quantifier (DQQ).

Design Question 1: What should be learned in school?

The traditional benchmark answer to this design question curriculum states two main areas: a core curriculum based on traditional subjects, and those subjects are taught in an increasing order of difficulty. AISCT seemed to fit this design question fully. The curriculum was built upon a specific core curriculum based on traditional subjects (math, reading, writing, science, history, etc.). The learning outcomes within the curriculum were subject specific and represented an increasing level of difficulty within a particular grade, as well as within the entire elementary school. The specific core curriculum provided a hierarchical learning process.

The progressive benchmark answer to this design question include four main areas: learning based on the learner's interests and needs, no required core curriculum that is arranged hierarchically, subject matter is not structured and a large emphasis on the learning process. WIS seemed to tend towards this progressive curriculum benchmark answer, but it did incorporate some of the benchmark answer criteria of a

⁴³ Chall (2000) does not refer to the answers to the design questions as 'benchmark answers' but rather uses these 'benchmark answers' as a response answer of the questions. Within this study, the term 'benchmark answers' is used as a standard against which the schools' comments/answers, regarding their curriculum, is measured.

traditional curricula. Within the area of 'learning based on the learner's interests and needs', WIS did try to incorporate and provide means by which the individual learner's interests and needs were met. For example, the learners were encouraged to research specific areas within a unit of study that interested them the most. While the larger unit was decided by the curriculum of the school, the specific research and interests were left to the individual student to seek out and learn. There was, therefore, a core curriculum, but the specifics within the core curriculum were left to the teacher and student upon which to collaborate.

Within the WIS curriculum, the learning outcomes were based on traditional subjects, but these learning outcomes were not taught in subject specific classes. The subjects were not taught as separate entities unto themselves, but were taught with an overarching unit of study. There was a great emphasis on the learning process. Students were encouraged to learn from the process, rather than the product of the learning. WIS, therefore, seemed to tend towards a progressive benchmark answer, because it encouraged learners to follow their own interests and the learning process is emphasized. It can also be considered to have tendencies of the traditional curriculum as there were specific learning outcomes based on traditional subjects, and this core curriculum was arranged in a hierarchical order.

AISCT's DQQ score: 1

WIS's DQQ score: 4

Design question 2: What should be emphasized – Product or Process?

AISCT and WIS seemed to fit exactly their respective benchmark answers for this design question. The traditional curriculum focused on learning content and skills, and believed thinking and problem solving skills could be learned through the process of learning content. AISCT functioned in this manner. AISCT emphasized learning content and acquiring skills to master the subject content. The assessment of the final product took into consideration the process, but the final grading was the end-point, and it focused mainly on the display of learned knowledge. Students were given rubrics at the beginning of projects and units so that they were aware of the focus on the end product within a unit of study. AISCT's emphasis was on product rather than process.

The progressive benchmark answer calls for an emphasis on the process and skills that develop how to think about a problem. Within this, the content that is learned is less important than the process through which the content is learned. WIS highly valued the process through which information was acquired. Students were encouraged to develop their own research methods and areas of interest within the greater unit of study. Although the students might have been learning different content, they were learning skills in the process. Developing an understanding of the depth of research within one aspect within a unit was preferred over understanding the breadth of a subject. WIS' emphasis was on the process rather than the product.

AISCT's DQQ score: 1

WIS's DQQ score: 5

Design question 3: Specific versus integrated content

This design questions calls for a traditional curriculum that teaches specific traditional subject (reading, writing, math, history and science), and a separate teaching of these subjects. There might be some integration across subjects, but this only takes place after a fundamental understanding of the basics of each subject have been learned. Given this benchmark answer, AISCT seemed to fit this model exactly. The core subjects of reading, writing, math, history and science were all taught in clearly defined blocks of time. Where logical connections could be made, there was some cross-over between subjects. The tendency, however, was to teach each traditional subject as an entity unto itself.

The progressive benchmark answer calls for an integration of subjects. For the most part, reading, writing, spelling, literature, speaking, and listening are integrated into the larger heading of language arts; history and geography into social studies; and all of these subjects into a larger overarching theme or unit of study. WIS implemented the International Baccalaureate Organizations' curriculum that required Units of Inquiry as the means by which the content of the curriculum was taught. Through the use of Units of Inquiry, the subjects were blended and taught through the wider lens of the Unit of Inquiry, rather than based on specific subjects. WIS reported that the subject of mathematics was the most difficult subject to incorporate into integrated teaching, but they did make an effort to integrate mathematics where possible. Depending on the Unit of Inquiry, the students might

have focused on one subject area more than another, but as the year progressed, the students were exposed to and taught all of the learning outcomes as denoted in the curriculum objectives.

AISCT's DQQ score: 1

WIS's DQQ score: 5

Design question 4: What should the curriculum be?

The traditional benchmark answer in this area calls for a focus on the basic skills learned through subject specific learning. The traditional subjects (reading, writing, math, history and science), are taught separately in order to establish a clear understanding of the basics within each subject. AISCT seemed to match this benchmark answer exactly. All core subjects were taught as separate entities. There was some blending across the use of skills from one subject to another. For example, within science, a student might have been required to use the skills learned in math, or write something using strategies learned in writing. The fundamentals, however, of each subject were taught separately in order to establish foundational learning within each subject.

The progressive benchmark answer to this design question calls for great variation in the means and modality of pedagogy. In a fully progressive curriculum, it is believed that any subject can develop problem-solving abilities and creativity; therefore, subject specific teaching is not necessary to teach the skills that are needed for learning. WIS' use of inquiry based learning seemed to fit this model. WIS contended that any part of the inquiry could serve to fulfill the learning outcomes. The movement between traditional subjects was fluid and encouraged. The Unit of Inquiry was the major focus of the study, and the teaching of specific subjects was fulfilled within the exploration of the unit. The curriculum was fluid to allow for the blending of subject specific content to arise and be taught and learned at any point in within a Unit of Inquiry.

AISCT's DQQ score: 1

WIS's DQQ score: 5

Design question 5: How students are perceived

Central to the benchmark answer of this design question is the perspective of children to be inherently ‘good’ or ‘bad’ in their stance towards learning. The traditional curriculum seeks to help ‘humanize’ the students through exposing them to explicit teaching on what it means to be a good citizen and a good learner. Within this, the students are expected to learn what is taught because the subject matter has been pre-determined by a set curriculum and hierarchical structure of learning. The material that was selected for study took into account likeability and interest, but it was not dependent on the students’ opinions. Within AISCT, the outcomes and expectations for learning were made explicitly clear to each student, both for the whole school year, and within each smaller element of learning. AISCT incorporated the expectation of students becoming “Global Citizens” within the five Expected School-wide Learning Results. AISCT, therefore, sought to ensure that the students were explicitly taught that they were to become good citizens and a good learner for the benefit of global purposes. AISCT seemed to fit this design question.

Whereas as a traditional benchmark answer of this design question seeks to ‘humanize’ each student, the progressive benchmark answer views students as eager learners that must be taught within the contexts of highly interesting subject matter. It is the belief that if a student is fully interested in the subject matter, the students are assumed to have good attitudes, good study habits and to naturally want to learn to become good learners and citizens. At WIS, the students were expected to have a high level on intrinsic motivation for learning. At the beginning of a Unit of Inquiry, the students were taught the fundamentals of the Unit, called ‘frontloading’. Within frontloading, the students were given the basic concepts of the Unit, so that could then begin to create their own individual niches of study with the Unit. The PYP Exhibition at the end of elementary school is an example of how WIS fits this design question benchmark answer. The PYP Exhibition requires all final year elementary students to follow their own learning desires and interest in creating a final display of research conducted in one area of their choice. This falls under the unit of “How we express ourselves”. The students individually express their own desires and ability to learn through this culminating project. WIS, therefore, perceived students to learn best when they are fully interested in what they were learning – fitting this benchmark answer.

AISCT's DQQ score: 1

WIS's DQQ score: 5

Design question 6: Moral development

A distinguishing characteristic of difference between the benchmark answers to this design question is whether or not moral development is taught explicitly or implicitly. A traditional benchmark answer teaches an explicit form of moral development. That is, students learn right and wrong from the content of their studies and through extracurricular activities. AISCT implemented this traditional form of moral development, but also encouraged implicit forms of teaching. Students were taught that certain characteristics of personality and behavior were valued and should be expressed above others. The implicit teaching aspects came from modeling behavior and positive reinforcement of behavior and 'good' attributes of character. While AISCT was mostly traditional in this design question, it did have some attributes of progressive teaching.

At WIS, moral development was taught by implicit means in the Units of Inquiry. Moral responsibility was deduced by students when discussing and learning about UNICEF's work with children and the effects of global warming. Students were not explicitly taught what their global responsibilities were, but rather the Units of Inquiry were taught so that students could imply what their individual responsibilities and actions should be. As the students were exposed to the world at large, they were expected to respond positively and with the correct moral attitude.

AISCT's DQQ score: 2

WIS's DQQ score: 5

Design question 7: Standards and assessment

The traditional benchmark answer to this design question calls for a school that implements teacher-centered means of assessments. Frequent quizzes and tests to assess accumulated knowledge are employed as one of the sole ways that assessment is conducted. These quizzes and tests are designed to test mastery over subject matter learned through subject specific tests. Standardized tests and achievements tests are also prevalent in strictly traditional assessment means. AISCT tended towards this

traditional benchmark answer of Standards and Assessments, as it incorporated all of the above means of assessment. Subject specific quizzes and tests were given to assess mastery of subject content, and the school did formally assess reading levels twice a year. Furthermore, AISCT took part in the International Schools Assessment (ISA) exams, in order to determine student rank and school performance against other similar students and international schools around the world. AISCT did incorporate the progressive means of assessment in one area – portfolios. Since 2006, AISCT required all students to complete a cumulative portfolio of their academic work for each grade level. The pieces in the portfolio were chosen by the individual students and each piece required personal reflection. The portfolios were not graded, but rather were used as a means of reflection on academic work completed by the students. It can, therefore, be surmised that AISCT tended towards the traditional stance on Standards and Assessments, but also incorporated elements of a progressive assessment.

Whereas AISCT had some progressive tendencies in this area, WIS had some traditional tendencies in this design question. The progressive benchmark answer in this area calls for an ambivalence about specifying assessment. There is a strong preference towards qualitative and diagnostic tests rather than set quizzes and tests. Portfolios are also a common means of assessing and allowing the students to assess their individual development. WIS students were expected to work to their highest level of achievement, and to be satisfied with working hard. The school did not have any set tests for accumulated knowledge at the end of a Unit of Inquiry and the school did not require any in-house exams. Projects were used as a means of determining mastery over subject matter, and students were taught to view these projects as a means of self-assessment. WIS recognized the need for data collection, and thus was looking towards implementing subject specific tests of mastery. Additionally, WIS did participate in international schools' assessment tests in order to measure the effectiveness of the learning program at the school. WIS, therefore, did have characteristics of a traditional assessment, but it was mainly that of a progressive assessment means.

AISCT's DQQ score: 2

WIS's DQQ score: 4

Design question 8: Attitudes towards individual differences

The traditional benchmark answer to this design question requires the students to all be held responsible for the basic skills taught through the individual subject matter. Differences amongst individual student ability are recognized, but there are minimal standards of achievement that all students are required to meet. AISCT did have specific learning requirements that were explicitly taught to each student. The students did not have a choice in the content of their learning, although individualization in differentiation was implemented for students both above and below grade level ability. The school recognized that students develop and learn at different paces and through different means, thus, individual learning plans and interventions were put into place to allow students to succeed. The goal of these individual learning plans and interventions was to have all students reach a minimum standard of achievement. AISCT seems to fit this benchmark answer well.

WIS' curriculum, ethos and IBO mission seem to fit with the progressive benchmark answer to this design question. The progressive benchmark answer calls for individualization of learning based on the individual interests, motivation and ability of each student. The students are not all held to the same standard. The main thrust is that students acquire means of learning how to think, question and research the answer to their inquiries. The concept of learning how to learn, solving their own problem, and knowing how to access knowledge is highly valued. Students were taught to be responsible for their own learning. The culminating Exhibition at the end of elementary school was example of how each student picked an individualized topic and thus exhibited knowledge and mastery through this project. WIS was found to fit the progressive benchmark answer.

AISCT's DQQ score: 1

WIS's DQQ score: 5

Design question 9: Optimum level of difficulty for learning

The traditional benchmark is quite simple – there is a high level of preference for providing more difficult rather than easier instruction. The theory is that students should be continually pushed to reach higher standards in their education. AISCT agreed with this benchmark answer and implementation of the Optimum level of

Difficulty. High standards were preferable to lower standards, as students were continually pushed by their teachers. Due to the fact that there was explicitly instruction in subject specific areas, teachers were able to provide hierarchical standards of learned material. These expectations were held by all teachers and were a part of the schools' educational philosophy.

At WIS students were expected to do much of their learning independently. In this manner, WIS fits the progressive benchmark answer to this design question. , WIS, however, did only tend towards a progressive approach, rather than being an exact fit, due to the fact that students were not solely responsible for their learning and acquisition of knowledge. Students were given explicit instruction in the 'frontloading' aspect at the beginning of each Unit of Inquiry. Without this initial teaching, students would not be able to achieve the level of difficulty or know how to individually achieve in-depth study without a precursor introduction to the study. WIS tended toward a progressive approach, but incorporated the idea of 'frontloading' as a traditional means of instruction at the beginning of each Unit of Inquiry.

AISCT's DQQ score: 1

WIS's DQQ score: 4

Design question 10: Grading/Report cards

According to the traditional benchmark answer, a school implementing a fully traditional curriculum in this area strictly give grades based on percentage of mastery as a standardized method of determining achievement. These grades and/or percentages are given as subject specific grades. Often the results of standardized tests are also recorded on traditional reporting. AISCT did fit this model fairly well. Students received four report cards throughout the school year. These report cards had subject specific grades for fourth, fifth and sixth grades, while pre-kindergarten through third grade were reported on a developmental scale. Additionally, for students in fourth through sixth grades, a scale of achievement for certain criteria within each subject was reported. For all elementary grades, AISCT teachers wrote a personal narrative for each student. This narrative gave insights into academic, social and emotional development of the students. Although AISCT was primarily traditional in its grading and reporting, the personal narrative did incorporate

progressive standards of reporting achievement. It can be surmised that AISCT tended towards a traditional approach, while implementing some aspects of a progressive approach.

Likewise, WIS tended towards a progressive approach, but did implement some aspects of a traditional approach. According to the progressive benchmark answer, a strictly progressive approach would be that of oral reporting to parents through means of conferences or written reports in a narrative form. While WIS did not give formal grades or percentage of mastery in each subject, the report cards did denote specific subjects. A developmental approach was used for all grade levels, where each subject was given a developmental mark, and a comment was given for that specific subject. Additionally, a personal narrative was also written by teachers. WIS was not a balance between both progressive and traditional because it did not give grades, but it did give subject specific reporting. There was a tendency towards progressive, but there were distinguishing aspects within this area that incorporated traditional means of reporting achievement to parents.

AISCT's DQQ score: 2

WIS's DQQ score: 4

Design question 11: Promotion

The benchmark answer to this design question for a traditional curriculum is that promotion is largely determined by academic achievement. If a student is not meeting minimal standards of achievement in a grade, retention is considered. Retention of a student more than twice, however, is rare in the elementary grades. AISCT seemed to follow this benchmark answer. If the student was working to meet minimal standards of achievement, the student was promoted. If a student that was fully capable of meeting minimal standards did not meet those standards, retention was considered. Allowances for individualization were granted in this area, and it was here that individual learning plans and interventions were best used. Students were given the tools during the school year in order to succeed, so that during promotion, students were able to proceed to the next grade level having met at least minimum standards of achievement. For those students, however, who had no need for interventions, and were simply not meeting the standard of achievement for promotion, retention was an option.

Within a progressive benchmark answer of this design question, social promotion is preferred over retention. There is an assumption that keeping students with their chronological age group is better than retention, as social promotion encourages predictability, motivation, and self-esteem. WIS held to these promotion standards, and only retained a student in extreme cases. Instructional interventions were preferred, as it was believed that retention could have detrimental effects on the students' self-esteem and further motivation to learn. If a student was struggling academically and there was a possibility of retention, the school met with the parents to assess whether or not the school was a good fit for the individual student. In this way, additional alternatives to retention were explored. Thus, WIS did not promote retention, but rather backed the ideal of social promotion.

AISCT's DQQ score: 1

WIS's DQQ score: 5

Design question 12: Attitude toward use of textbooks and other teaching materials

According to a traditional benchmark answer, a strictly traditional curriculum sees the use of textbooks as central to teaching the curriculum. The use of textbooks ensures minimal coverage of content, and provides continuity within teaching. Resources such as encyclopedias, reference books, newspapers, magazines and computer programs are all viewed as positive means of ensuring curriculum standards. AISCT adhered to this traditional benchmark answer. The use of quality textbooks was highly valued, as the textbooks ensured continuity of knowledge and presentation of that knowledge across grade levels and made certain that expected outcomes, as defined in the curriculum, were met. The textbooks were as uniform as possible across all elementary grade levels in the subjects of math, writing, science, grammar and reading. This approach was taken in order to promote accountability of instruction, curriculum coverage, a circular approach to learning material, and instructional practice throughout the elementary school and across all grade levels and teachers. Furthermore, supplementary material was seen as highly useful and beneficial to the acquisition of knowledge. Therefore, AISCT was traditional in its attitudes towards the use of textbooks.

WIS did tend towards a progress approach to textbooks, but there were certain elements of traditionalism that stood out. Within the progressive benchmark answer, original sources, such as children's literature, novels, historical words and original documents are preferred over textbooks. Textbooks are seen as dull and inconsistent with the idea of making learning as interesting and individualized as possible. WIS tried to make use of original sources, but recognized the importance of textbooks in the teaching of beginning reading. WIS used *Fountas and Pinnell* leveled readers when teaching reading, and also used Kathy Ganske's "Word Journeys" as a means of teaching phonetics. Other than these two texts, WIS did not use textbooks. Hands-on learning was much preferred to reading in a textbook; however, supplemental sources were available to assist with understanding, especially in the frontloading portion of the Unit of Inquiry. WIS seemed to tend towards a progressive approach to textbooks, but also incorporated the traditional method of teaching reading and phonics through the use of textbooks.

AISCT's DQQ score: 1

WIS's DQQ score: 4

Design question 13: How students difficulties are explained and treated

Within a traditional benchmark answer, academic difficulties are explained and treated through an examination of what the student has failed to learn and why that student is having trouble learning that material. While non-academic concerns are considered, the school places a greater emphasis on treating the academic difficulties rather than the social difficulties. AISCT's view was that individual instruction was highly valued when students exhibit academic difficulties. The individual instruction did not come in the means of progressive individualization to learn only the desires and ideals of the individual student, but rather put into place interventions that will allowed the student to find success within a set curriculum. The individual academic difficulty was treated with an individual intervention in order to meet a school wide expectation for learning. Whereas social and emotional concerns were taken into consideration, the school was primarily concerned with the academic implications and solving the problem from an academic stance.

According to the progressive benchmark answers, the progressive stance towards student difficulties are explained and treated through non-educational factors.

This relates back to Design Question 5: How students are perceived. The progressive stance states that students will be motivated and find success in their academic achievement if they find the topics of study interesting. Thus, if a student has trouble academically, it is assumed that the child is motivated to learn through the progressive curriculum, thus, there must be an outside factor that is causing disruption to the academic progress. This might stem from lack of motivation, emotional problems, or troubled and dysfunctional home. WIS held to this progressive benchmark answer of student difficulties. While individual academic instruction was given to students that are in need, the school sought to determine the motive behind academic difficulties. Factors such as motivation and emotional problems were taken into consideration. Therefore, WIS seemed to fit the progressive model.

AISCT's DQQ score: 1

WIS's DQQ score: 5

Design question 14: Discipline

Much like the academic expectations discussed in Design Question 8: Attitudes towards individual differences, the discipline expectations for students are made explicitly clear within a strictly traditional curriculum, according to the traditional benchmark answer. Behavior rules are taught and consequences are known by teachers and students alike. AISCT implemented this stance on discipline. Classroom rules were explicitly made known to students, and were often posted for the class to review. Furthermore, students were continually aware of their behavior in class through means of behavior monitoring charts. Discipline took place on an individual, group and class level. Thus, AISCT met the requirements for a fully traditional benchmark answer for this design question.

Within the progressive benchmark answer of discipline, it is assumed that the child-centered approach is a major deterrent for behavioral problems. Due to the fact that the child is fully engaged in learning, there is little room for behavioral problems. It is also assumed that behavioral problems stem from academic frustrations. If the academic frustrations are solved through the means of a child-centered curriculum, then behavioral problems will not be a major issue. Thus, behavior is seldom discussed, and rules of behavior are usually not made explicit. WIS did adhere to a child-centered curriculum, where class rules were understood, but were not explicitly

displayed or conveyed to the students. Thus, WIS tended towards a progressive stance; however, WIS did make use of ‘contracts’ or ‘agreements’ regarding behavior with individual students. These ‘agreements’ were made at the beginning of the school year, and were held as an essential part of the PYP program where understanding of why something was done is a key component. These ‘agreements’ were explicitly agreed upon by students and teachers, thus incorporating some elements of a traditional view of discipline. Although tending toward a progressive stance, behavior was discussed and explicitly addressed at the beginning of the school year at WIS.

AISCT’s DQQ score: 1

WIS’s DQQ score: 4

Design question 15: What is the teacher’s educational background?

This is the only design question in which AISCT and WIS found a middle ground of tending neither towards the progressive or traditional benchmark answer for this design question. Both AISCT and WIS required their teachers to be trained in elementary school education, and have knowledge of the subject matter in which they taught. The traditional benchmark answer primarily calls for subject specific knowledge over knowledge of methods of teaching. The progressive benchmark answer calls for an understanding of child development and how to stimulate academic development more than subject specific knowledge. Both AISCT and WIS required their teachers to have subject specific knowledge, while also being educated in educational psychology, educational history and child development. Neither AISCT nor WIS can be deemed to tend towards progressive or traditional in their curricular stance.

AISCT’s DQQ score: 3

WIS’s DQQ score: 3

Design question 16: Should schools focus on affect and motivation or knowledge and the intellect?

A traditional benchmark answer to this design question calls for a specific emphasis on intellect and academic learning. The major focus of the school should be

found in the academic learning achieved by the students. The school's main thrust should be the academic development of its students. The motivation and affect of the students are important, but are not central to the development and implementation of the academic standards. AISCT seemed to fit this model. Within the Expected School-wide Learning Results, there was a strong emphasis on acquiring knowledge and higher level thinking. Furthermore, the stated curriculum outlined learning outcomes and expectations. The school did seek to develop a love of learning and a motivation for learning for the sake of learning, but this motivation and affect did not play a central role in curriculum development. Rather, the curriculum and teacher sought to develop and teach motivation and affect as a result of learning clearly defined subject matter. AISCT focused on the traditional benchmark answer of knowledge and intellect over affect and motivation.

WIS displayed the middle ground between a traditional and progressive approach within this design question. The aspects of a traditional benchmark answer were found in the fact that WIS had clearly defined learning outcomes, written specifically by subject within the curriculum. Within these learning outcomes, students were encouraged to find individual motivation and inspiration to stimulate their learning. The philosophy of education at WIS desired affect and motivation as an instinct to the individual student and reinforced by the chosen Units of Inquiry that are studied. Therefore, WIS was found to have a balance between a traditional and progressive stance toward the focus on affect and motivation, or knowledge and intellect.

AISCT's DQQ score: 1

WIS's DQQ score: 3

Appendix C:
Comparison of Design Questions between AISCT and WIS
 (As per Chall, 2000))

	Traditional (AISCT)	Progressive (WIS)
Benchmark Answer by Chall	Design Question 1: What should be learned in school?	
	<p>Knowledge from the past, present and foreseeable future; skills important for the individual and society. A core curriculum based on the traditional disciplines of reading, writing, literature, mathematics, science, social studies, and art- arranged in an increasing order of difficulty</p>	<p>School learning should be based on the learner's interests and needs. Theoretically there is no required core curriculum that is arranged hierarchically. Subject matter is not structured. The emphasis is on the learning process and on a variety of subjects that are integrated to make them more meaningful.</p>
Answers by schools	<p>The core curriculum is based on traditional subjects of Language Arts (encompassing reading, writing, and spelling), Science (Life, Earth, Physical, and Chemical), Social Studies (Geography, History, and Society), Mathematics, and Second Language instruction. The curriculum is designed hierarchically, and with increasing order of difficulty.</p>	<p>The school has developed a curriculum that is based on learning outcomes for English, Language, Mathematics, Science, Social Studies and Transdisciplinary Skills (social skills, communication skills, thinking skills, research skills, and self-management skills). The curriculum is formulated from the PYP Program of Inquiry- based on the six areas of inquiry: Who we are; Where we are in place and time; How we express ourselves; How the World Works; How we organize ourselves; Sharing the planet. The subject matter is somewhat hierarchically organized, but not across all subjects. The learning is based on the students' interests, but follows a set curriculum. Movement of study within an area of inquiry is allowed for, as the basis of the unit is outlined, but the details of the unit are not. There is a great deal of emphasis on the learning process. All subjects are as integrated as possible. Mathematics is not as integrated as the school would like to see, but where it can be integrated into the inquiry unit, it is.</p>

Benchmark Answer by Chall	Design Question 2: What should be Emphasized – Product or Process?	
	Emphasis is on learning content and skills. Thinking and problem solving are learned with content	Emphasis is on process and on how to solve problems- how to think. The content is less important than the process
Answers by schools	The emphasis is on learning the content and acquiring the skills to learn that content matter. Thinking, problem solving and research skills are learned with the content. The final product takes into consideration the process, but the final grading mainly comprises the final product/test/project.	There is a large emphasis on the process and on how to solve problems. The teaching of thinking skills is highly valued and sought after in all teaching areas. This can be seen in the specific curriculum area of Transdisciplinary Skills (social skills, communication skills, thinking skills, research skills, and self-management skills). Depth of research and understanding into a topic is valued and taught much more than breadth of a subject. The students are not tested on their overall and final knowledge of a subject, but are rather developmentally assessed in each of the areas through antidotal notes, and teacher-student reflections on the work completed. A desire to develop students that think “outside of the box” and with the concept that there might be more than one way to solve a problem is highly encouraged in all areas of teaching.

Design Question 3: Specific versus Integrated Content		
Benchmark Answer by Chall	There is a tendency to teach the traditional subjects (reading, writing, spelling, social studies, science) separately in the elementary grades. There may be some integration, but not until after the basics of the separate subjects have been acquired	There is a preference for integrating subjects: reading, writing, spelling, literature, speaking and listening into language arts; history and geography into social studies; and more recently social studies with reading and writing, and writing and science with literature
Answers by schools	Core subject matter is taught separately and in blocks. There is set times for each subject that is taught, with clear definition between each subject. Where logical connections can be made, there is some cross-over between subjects. For example- social studies connections to a literature text for reading. Most often, if there is a connection between subject matter, it is made between one core subject and a literature text.	Although individual learning outcomes are stated in the curriculum, there is a very high level of integration between all subject areas. The teaching concentration is on teaching through units based on PYP outlines. Each Unit of Inquiry has a title and integrates all subject areas. The subject areas are not defined to the students as they are taught. Blocked timed for each subject is not seen, as the subjects are blended to each Unit of Inquiry. The only subject that is not fully integrated is mathematics. The integration of subjects is also found in instruction within the second language. Project based inquiry takes place within the second language instruction. Depending on the Unit of Inquiry, the students might be focusing on one subject area more than another, but as the year progresses, the students are exposed to and taught all of the learning outcomes as denoted in the curriculum objectives.

Design Question 4: What Should the Curriculum be?		
Benchmark Answer by Chall	<p>With a focus on basic skills, the traditional curriculum has changed little in the elementary grades since the early 1800s. The traditional subjects-reading, writing, spelling and math- are taught separately in the early grades instead of being combined into language arts or whole language. History, geography, an science are usually taught separately in the middle grades</p>	<p>There is much variation in what is taught and when it is taught. Theoretically, any subject can serve to develop problem-solving abilities and creativity. There is less hierarchy of subject matter. Reading, writing, spelling and literature are usually combined. Social studies combines history, geography, sociology and anthropology.</p>
Answers by schools	<p>The major focus is on acquiring the basic skills in each of the core subject areas. These subjects are taught separately, as individual subjects with individual time blocks and grading. The goal is to provide the students with a strong base within each subject matter and an ability to call upon these individual skills in later grade levels.</p>	<p>Within each of the six Units of Inquiry, the students are exposed to each subject and are working to achieve the learning outcomes as outlined in the curriculum. Any part of the inquiry can serve to fulfill the learning outcomes. Although an individual subject is not explicitly being taught, the skills that are taught are fulfilling multi-subject learning outcomes. All areas of inquiry seek to develop problem solving and thinking skills. Movement between reading, writing, spelling and literature are blurred, as the students simply seek to learn and investigate the Unity of Inquiry, rather than purposely focusing their learning on a particular skill. Social studies and science are also incorporated into language arts, as the reading, discussion, writing, vocabulary and spelling is taken from the Unit of Inquiry. The Units of Inquiry are based in either science or social studies, and then other subjects or areas of instruction, are taught based upon the investigation into the Unit of Inquiry. The Unit of Inquiry is the major focus of study, and the teaching of specific subjects is fulfilled within the exploration of the unit.</p>

Design Question 5: How Students Are Perceived		
Benchmark Answer by Chall	Students are expected to learn what is taught. What is taught should be as interesting as possible, but it is selected because it fits in with an over-all hierarchy of learning tasks. The student comes to school with both good and questionable habits and attitudes. Schools are designed to “humanize” him or her into being a good citizen and good learner.	Ideally, the best learning comes when students are interested in what they learn. Therefore, teachers are to encourage students to follow their own interest in their learning. Students are assumed to have good attitudes and habits and to naturally want to learn and become good citizens.
Answers by schools	The outcomes and expectations for learning are made explicitly clear to each of the students. They are fully aware of their individual development and the expectations for each assignment, as well as subject and grade level. The interest level of the student is important and valued, but is not a consideration in the development of curriculum. The school aims to provide the students with a clear education that models both a love of learning, and expectations for further learning- regardless of interest level. Shaping and molding the students into life-time learners and model citizens of a global community is a part of the mission statement of the school.	Students are expected to have a high level of intrinsic motivation to learn. The areas of inquiry are developed and specifically taught. However, the area of inquiry serves as a scaffolding and outer shell for the specific learning accomplished by each student. Students are encouraged to follow their own interests and motivations to learn. At the beginning of a unit, the teacher “frontloads” or teaches specific lessons in order to give the students background and pertinent information about the Unit of Inquiry. After the frontloading, the students are then able to research and inquire into specific areas of the unit that are most interesting to the individual student. This is most clearly seen in the PYP Exhibition conducted in fifth grade. The PYP Exhibition seeks to show the culmination of thinking and research skills that the student has learned throughout elementary school. This Exhibition falls under the unit of “How we express ourselves.” The students have the opportunity to Exhibit in any area of individual inquiry. This project can take the form of Drama, Visual Arts, Language or Technology. The goal of the PYP Exhibition is to exhibit the students’ acquired knowledge and ability to individually inquire into an area of interest. This PYP Exhibition shows that the program has a strong emphasis on attitude toward learning and a natural desire to learn and become a good academic citizen, and thus, global citizen.

Design Question 6: Moral Development		
Benchmark Answer by Chall	Students learn right from wrong from their studies and from extracurricular activities	Moral behavior develops from the individual's experience. It is best learned when not taught directly.
Answers by schools	Students are taught both explicitly and implicitly right and wrong from both academic studies and social interactions within and outside of the classroom.	Students are expected to learn moral behavior indirectly through the Units of Inquiry. The Units of Inquiry are specifically designed to highlight such areas of moral responsibility such as UNICEF's work for children's rights in different countries, environmental concerns and human impact on the environment, community awareness both locally and globally, and governments. These moral responsibilities are not taught directly, but are taught through the Units of Inquiry. As students are exposed to the world at large, they are expected to respond.

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Design Question 7: Standards and Assessment		
Benchmark Answer by Chall	Formal and informal tests are given to determine the student's aptitude for and mastery of the subject matter that has been taught- the content and the skills. Contemporary teacher-centered schools make use of standardized tests of aptitude and achievement.	There is ambivalence about both standards and assessments. Standards are problematic because of the great emphasis on individual differences. There is a preference for qualitative and diagnostic tests and more recently, for portfolios.
Answers by schools	<p>Quizzes and tests are very common means of assessment- especially at the end of a unit. The content and skills that were learned throughout the unit are tested. Quizzes and tests can come in a variety of forms- multiple choice, short answers, long answer, diagramming. Students complete a portfolio of their best work in each grade. These portfolios are currently used as a means of reflecting on the skills and content that has been learned, and is not incorporated into any grading scheme. Writing samples are scored for achievement within the Six Traits Writing Program. Developmental Reading Assessments are given twice a year to determine grade level reading ability. International School's Assessment (based in Australia) is given once a year to determine student and school success as compared to other like International schools.</p>	<p>Standards are set for the grade level based upon the learning outcomes in the curriculum. Students are expected to achieve the learning outcomes to the best of their ability. The school does not have any set tests at the end of each school year, but are considering this as a means of assessment of the program of instruction. Formal assessments are not given within each Unit of Inquiry. Project based assessment is most common. These assessments are based on a developmental scale of understanding, rather than on right or wrong answers. Students are taught to view their work as a continual progression to a higher understanding of the Unit of Inquiry. Developmental Reading Tests are given as a way to determine low reading ability. International school's tests are administered as a way to measure the effectiveness of the learning programs in place at the school. The school is seeking to develop a portfolio system to further help students, teachers and parents in the understanding of the students' current developmental progress. Although the school recognizes the importance of data collection, it does not seek to continually quantify this data through subject specific testing.</p>

Design Question 8: Attitudes towards Individual Differences		
Benchmark Answer by Chall	All students are expected to learn the basic skills (reading, writing, and math) and the traditional content subjects (history, geography, and science) as their aptitude permits. While individual differences in ability are recognized, all who attend school are expected to reach at least some minimal standards in knowledge and skills.	Student learning is expected to vary by interests, motivation, and ability. Therefore, not all are held to the same standards. Also, because of the knowledge explosion, students cannot be expected to learn all there might be to learn. Therefore, they should learn, not subjects, but how to learn, think, and solve problems; and they should know how to find what they need when they need it.
Answers by schools	Learning expectations are made clear to both students and parents. Students do not have a choice (in elementary school, other than French or Spanish second language instruction), in the subject matter studied. Individual differences in ability are accounted for, and differentiated instruction is practiced on an individual basis. With these individual differentiations, students are expected to meet minimal standards in knowledge and skills.	Students are expected to be a part of all Units of Inquiry. However, their interest level, motivation and ability within the subject are taken into consideration when teaching. As a student might be less interested in a subject, their motivation, interest and ability within that areas of inquiry, might be less. This is balanced by trying to make each Unit of Inquiry as interesting as possible, and as unique to each student as possible. The theory being that if the student is researching and inquiring into an area of interest, the motivation and ability to acquire new skills will be higher. The concept of learning how to learn, solving their own problem, and knowing how to access knowledge if it is not known is very highly valued. Students are taught to be responsible for their own learning, and to think “outside of the box” when investigating and researching. The students are encouraged to find multiple answers and solutions to problems and the focus of inquiry. Because students are not expected to meet a continual hierarchy of achievement within each subject, the theory that the students will be exposed to and will learn the skills and knowledge they need on an ongoing basis is applied. With continual exposure to thinking and problem solving skills, individual weaknesses in certain areas will be addressed and accounted for based on time and continual exposure through a variety of Units of Inquiry.

Benchmark Answer by Chall	Design Question 9: Optimum Level of Difficulty for Learning	
	The tendency is to prefer more-difficult rather than easier instructional tasks and materials.	The tendency is to prefer easier tasks and materials because students are expected to do much of their learning independently.
Answers by schools	As is possible and determined by the teacher, high standards of teaching are always preferable. This is done on both a class level and an individual level of differentiated instruction. If certain students are able to achieve a higher standard of education, the students are pushed to reach new goals. A constant push for higher levels of expectations is held by all teachers, and is a part of the school's educational philosophy.	Students are expected to reach higher levels of thinking and problem solving skills as the level of inquiry becomes more difficult. However, the desire is for an in-depth knowledge within a Unit of Inquiry. Therefore, students gain a depth and not breadth of knowledge. This is particularly seen by the use of Investigations Mathematics. Students are taught to have a very good and in-depth knowledge of key areas of knowledge so that they can later build upon these skills. A large part of the students' academics are conducted individually through projects and investigations, but this is only done after the student has been equipped by the teacher in the first section of the unit- "frontloading". As individual ability allows, material becomes more difficult. In this way, differentiated instruction occurs.

Design Question 10: Grading/Report Card		
Benchmark Answer by Chall	Letter and/or percentage grades are given for most subjects. Sometimes scores from standardized achievement tests are also included on the report cards received by parents.	Oral reports directed to the parents are considered the ideal form of reporting pupil progress. A written report in narrative form may also be used.
Answers by schools	Students receive Term Report Cards four times a year. In grades PK through 3, the individual subjects are graded on a developmental scale: Needs Improvement, Developing Appropriately, Exceeding Development. In grades 4-6, letter grades based on percentage are given in the following areas: Spelling, Writing/Grammar, Reading, Mathematics, Science, Social Studies. Within each subject, a developmental scale is also included to further show progress for subject specific criteria. Results from Developmental Reading Assessment are recorded on the report card. A one page comment, in narrative form, is also made about the students' academic, social and emotional development.	Students receive Term Report Cards twice a year and the end of each semester. This report card uses a developmental scale: Evident, Surpasses grade level expectation, Emerging-requires ongoing support and guidance, Observed often-shows steady progress, Observed regularly-performs consistently on a regular basis. This developmental scale is used for grades one through five. No percentage or letter grades are given for any subject. However, individual subjects are denoted on the report card: English, Second Language, Units of Inquiry, Social and Emotional Behavior and Mathematics. A written report in narrative form is also used within the report for each subject. These are paragraph comments for each subject as noted above. Progress reports go out in the fall prior to conferences for each child, but they are optional in the spring prior to conferences and in general are only sent if there is a concern. In addition to the report cards, parent-teacher conferences are held in the fall and spring. The school is transitioning into student led conferences within the next school year.

Design Question 11: Promotion		
Benchmark Answer by Chall	Promotion is largely by achievement. If the achievement is thought to be too low for success in subsequent grades, the student may be retained for a year. Usually a student is retained twice, at most, in the elementary grades.	Social promotion is preferred. The student is promoted with his age group even if his achievement is quite low. It is assumed that the student will benefit from predictable promotion since ideally the instruction is matched to the student's instructional level, not to his or her grade placement. Also, to hold back a student is considered questionable for his or her self-esteem.
Answers by schools	Promotion to the next grade level is determined primarily by academic achievement. If a student is clearly achieving beyond grade level expectations, early promotion is considered based on social-emotional development. Retention of students is rare, although it will occur if a student is academically not ready for the next grade level.	The school will only hold-back a student in extreme cases. If the student is not performing up to grade level expectations, interventions will be put in place before retention is considered. Instructional interventions are preferred over retention, as retention could have detrimental effects on students' self-esteem and further motivation to learn. It is assumed that the student will benefit from predictable promotion since ideally the instruction is matched to the student's instructional level, not to his or her grade placement. While a student may continue to have an achievement rate below expectation, promotion to the next grade is highly likely. However, at this point there is also talk about the possibility that our school might not be the right fit for the child and additional alternatives are then explored.

Design Question 12: Attitude toward Use of Textbooks and Other Teaching Materials		
Benchmark Answer by Chall	Textbooks are important to assure minimal coverage of content. Additional materials are recommended as well, for example, encyclopedias and other reference works, books, newspapers, and magazines, and more recently computer programs.	Original sources- for example, children’s literature, novels, historical works, original documents, and more recently computers- are preferred to textbooks. Textbooks are not preferred because they are considered dull and not geared to the individual needs and interests of students. For science, hands-on experiences are preferred to reading materials.
Answers by schools	Textbooks are considered extremely important for continuity between grade levels and to ensure that the expected outcomes as defined by the curriculum are met. Additional materials are highly recommended to reinforce what was learned through the textbooks. This can be other reference material, worksheets, Internet resources or reproducible sheets from supplemental teaching books. Textbooks are as uniform as possible throughout the grade levels: Saxon Math, Six Traits Writing, Language Arts Today, and Science Anytime. This approach is taken in order to promote accountability of instruction, curriculum coverage, a circular approach to learning material, and instructional practices throughout the elementary school and across all grade levels and teacher.	The school does not use many text books. Novel studies are conducted and are generally related to the Unit of Inquiry. Fountas and Pinnell leveled readers are used to teach reading skills, and “Word Journeys” by Kathy Ganske is used as a means to teach phonetics based spelling. Textbooks are not used for science or social studies, as these units are incorporated into the Units of Inquiry. Hands-on and investigative work is preferred over reading materials, but reading materials are available to assist with understanding, especially in the frontloading portion of the inquiry.

Design Question 13: How Students Difficulties Are Explained and Treated		
Benchmark Answer by Chall	<p>The emphasis is on learning and teaching. If the student is failing, the tendency is to look into what he or she has not learned and how it can be provided by the school. Behavioral and emotional problems are also recognized as possible cause of learning difficulties. But there is a greater emphasis on treating academic difficulties directly, even if the causes are nonacademic.</p>	<p>The cause for academic difficulties is usually sought in non-educational factors- lack of motivation, emotional problem, or a troubled or dysfunctional home. For students in first grade, a lack of progress is often stated in terms of lack of readiness for schooling.</p>
Answers by schools	<p>Individual instruction is highly valued and differentiation is made available for all students-both low level and high level students. If there are academic problems, interventions are put into place in order to assess the route of the problem, and to fill in any missing academic gaps. Behavioral and emotional problems are taken into consideration when forming interventions. If behaviors and emotional problems are found to be the cause of the academic troubles, then the behaviors and emotional problems are targeted as areas for improvement and remediation. The primary concern is the academic development, but as the school seeks to develop the whole individual, behavior/emotional problems are addressed and a concern of the school.</p>	<p>Academic difficulties are addressed by means of reading assessment. A reading specialist is employed by the school to give Reading Recovery instruction on a one-on-one basis. Individualized instruction and differentiation is also practiced at the school. Factors such as motivation and emotional problems are taken into consideration. If the student is not motivated to learn, academic difficulties may ensue, thus, encouraging the motivation to learn will then taken care of the low academic performance level. Students are not expected to perform the same in all Units of Inquiry, because motivation is not the same, thus academic progress and aptitude is not the same. The school tries to overcome the possibility of non-readiness in first grade by making admissions processes rigorous, and the requirement for second language grade level performance mandatory.</p>

Design Question 14: Discipline		
Benchmark Answer by Chall	Rules of behavior are made explicit, are taught, and appropriate steps are taken when a child or class does not follow them.	Discipline is seldom discussed. It is assumed that curriculum and methods that are child-centered and based on the child's ability will minimize the need for discipline. Rules of behavior are usually not made explicit.
Answers by schools	Students are individually held responsible for their own actions. Each class has a clearly posted set of rules and consequences for breaking the rules. Students are continually aware of their level of behavior in the class. Discipline happens on an individual, group or class level.	The child-centered curriculum and Units of Inquiry are thought to have a direct impact upon the behavior of the child. Class rules are definitely in place, but not solely by the teacher. In the majority of cases, "essential agreements" or "contracts" are built with student input in the first few days of school so everyone has the understanding of why the class has the expectations that it does. At this point they are explicitly known to everyone. Class "rules" per se are not posted, the attitude is more focused on "agreements". This is in keeping with the philosophy of the Primary Years Program, where understanding is a key component.

Design Question 15: What Is the Teachers' Educational Background?		
Benchmark Answer by Chall	Education is the subject matter being taught is preferred, especially for high school teachers. There is less concern with the teacher's knowledge of methods of teaching than with knowledge and expertise in the specific subject matter.	The teacher's mastery of subject matter is considered less important than an understanding of child and adolescent development, and how to stimulate and encourage students' creativity and self-expression.
Answers by schools	In elementary grades, it is required that all teachers have a background in either teaching or hold a degree in Education. As multi-subject matter knowledge is imperative for elementary instruction, teachers are expected to have the skills to each across subject areas. Teachers are also expected to have knowledge and course work in areas of educational psychology, history, and child development. Although expertise in specific subject matter is not required, specific expertise in elementary education is required.	In elementary grades, it is required that all teachers have a background in either teaching or hold a degree in Education. As multi-subject matter knowledge is imperative for elementary instruction, teachers are expected to have the skills to each across subject areas. Teachers are also expected to have knowledge and course work in areas of educational psychology, history, and child development. Although expertise in specific subject matter is not required, specific expertise in elementary education is required.

Design Question 16: Should Schools Focus on Affect and Motivation or Knowledge and the Intellect?		
Benchmark Answer by Chall	The emphasis of the school should be on the intellect- on academic learning. This does not mean that motivation and affect are ignored; it means that the major focus of the schools should be on academic learning, and that motivation and affect are important only as they influence academic learning.	The emphasis is on affect and motivation, with less emphasis on the content of what is learned. In order for students to be motivated to learn math and science, certain programs may be preferred because students find them more interesting and exciting.
Answers by schools	The emphasis of the school is clearly on knowledge acquisition and intellectual pursuits. The curriculum clearly outlines expected learning outcomes and expectations. The focus of the school and the major reasons for existence is for academic learning. While the school seeks to develop a love of learning and motivation for continued learning, that motivation also needs to be channeled and learned as a motivation to learn what is required to be learned. Student motivation and affect do not led the curriculum or the areas of instruction- but rather, the curriculum and teachers seek to develop and teach motivation and affect as a result of learning clearly defined subject matter.	There is an emphasis on affect and motivation, but there are also very clear expectations outlined in the Learning Outcomes within the curriculum. Although specific content area is not outlined, expectations of thinking, problem solving and research skills are apparent. The students are expected to have been exposed to and to master thinking, problem solving and reasoning skills so that they are then equipped to find and inquire into any topic. The Program of Inquiry followed is designed to bring maximum motivation and interest from the students. Where the students do not find maximum motivation and interest in the Unit of Inquiry, they are encouraged to find an enclave of interest to research. The philosophy of education desires affect and motivation as instinct to the individual student and reinforced by the material that is studied. Global thinkers and problem solvers are desired. Knowledge, without a deep understanding of the root, is seen as inconsequential knowledge.

Appendix D:

Traditional and Progressive Curriculum Compared and Contrasted

Introduction:

Both traditional and progressive curriculum design theories have had successes and failures in implementation. Throughout this study no author, researcher or educational critic claimed that any one curriculum design theory was without fault or was perfectly suited for all educational settings. It is the goal of this section, however, to offer both sides of the “Great Debate” (Chall, 1967) and to determine which curriculum design seemed to be the better fit for the constraints and specific difficulties facing international elementary schools.

Within this section, the following areas within the great debate are discussed:

- the many terms given to progressive education and the reasons behind these varied terms
- the meaning of progressivism, as understood in the general educational context
- the evidence for positive, naturalistic and whole-child progressive theory

Having discussed the naturalistic basis for progressive theory, Hirsch’s (2001) characteristic of progressive curriculum design theory as ‘romantic’ is discussed. The utilitarian movement and the reasons behind the rise of progressive curricula design is reviewed in the history section. Prior to the conclusion of this section, the research basis and findings for both progressivism and traditional curriculum design is outlined.

The last section of within this comparison is a presentation of the research findings of traditional and progressive curriculum types.

Curriculum Types Compared and Contrasted:

As the concept of ‘progressive’ education developed throughout the history of education reform, many terms have been used to express the idea of progressive education. Kirschner et al (2006) cites the following terms: discovery learning, problem-based learning, inquiry learning, experiential learning, and constructivist learning. To these terms, Mayer (2004) adds the following: minimal guidance,

unguided, pure discovery and guided discovery. The purpose of these terms is not to confuse educators, although the terms tend to do so, but rather to explain the slight differences in pedagogical practices within progressive education.

Kirschner et al (2006) states that although the names are different and point to different approaches within the typology of progressivism, the pedagogy remains essentially the same. Mayer's (2004) use of the terms 'minimal guidance' or 'guided discovery' and 'unguided' or 'pure discovery' learning do have some pedagogical differences. Within a minimal or guided discovery, students are given a problem to investigate, but the teacher also provides "hints, direction, coaching, feedback, and/or modeling to keep the student on track; and expository methods, in which the student is given the problem along with the correct answer" (Mayer, 2004). The guidance given through this method stands in contrast to the pedagogical methods used in unguided or pure discovery learning. Within this context, students are given a problem to solve and asked to "discover the fundamental and well-known principles of science by modeling the investigatory activities of professional researchers" (Kirschner et al, 2006).

Agreeing with Kirschner et al (2006) and Mayer (2004), Labaree (2005) introduces his paper "Progressivism, Schools and Schools of Education" by stating that before an evaluation of progressive theory can be given he must "sort through the multiple meanings of progressivism" (Labaree, 2005.) Labaree defines progressive education:

Today progressivism means pedagogical progressivism. It means basing instruction on the needs, interests and development stage of the child; it means teaching students the skills they need in order to learn any subject, instead of focusing on transmitting a particular subject; it means promoting discovery and self-directed learning by the student through active engagement; it means having student work on projects that express student purpose and that integrate the disciplines around socially relevant themes; and it means promoting values of community, cooperation, tolerance, justice and democratic equality. In the shorthand of educational jargon, this adds up to a 'child-centered instruction, 'discovery learning' and 'learning how to learn.' And in the current language of American education schools there is a single label that captures this entire approach to education: constructivism. (Labaree, 2005)

Although the pedagogic approach within the progressive terminology does vary slightly, the question is begged of why progressive educators see this type of learning as better than traditional methods. The progressivism movement theory upholds the belief that education should be naturalistic. The goal of progressive

education is to use the innate desire of the child to learn. This is done so that children build upon their prior experiences in order to construct meaning that will be long term, rather than simply handed down as in traditional education (Kirschner et al, 2006; Mayer, 2000; Hirsch, 1987).

The child-centered approach to learning, as advocated by progressivism, seeks to educate the child in the most natural way possible – through discovery of his own world. Hirsch sights progressive thinking as naturalistic, spiritually nourishing and with a desire to study subjects through real-world, hands-on, natural methods (Hirsch, 2001). According to Hirsch, this Deweyan influenced theory placed “too much faith in the ability to learn general skills from typical experiences” (Hirsch, 1985). In Hirsch’s response to this theory of acquiring knowledge, he was confronted by progressive advocate Dijkstra. She believed that the goals of education should be in the ability to problem-solve in a real-world context (Dijkstra, 2004). She argued that education must be for the whole-child. In this context, Dijkstra asserted the following instructional design in order to engage and develop the naturalistic learning of the whole child:

1. Cognitive goals
 - a. exploration
 - b. understanding
 - c. intellectual creativity
2. Humans are prepared for regularity, exploration leads to the development of knowledge
3. Humans nearly always try to verify the correctness or truth of newly developed knowledge “why” questions (Dijkstra, 2004)

The naturalistic progress of education says that the joy of learning, intrinsic interest in the world, and a deep understanding through holistic means of learning will, in-turn, develop the whole-child. In contrast, for example, rote learning of the multiplication tables is seen to kill the naturalistic learning, and deaden the child to any further learning (Hirsch, 2001).

Hirsch’s characterizes progressivism as “Romanticism.” This term comes from the Hirsch’s belief that progressivism will not fulfill the needs in education, but rather is a romantic view of what education could possibly be, yet ultimately will not be, given the reality of creating a concrete curriculum. Hirsch (1999) explained his view of progressive romanticism in his book *The Schools We Need and Why We Don’t Have Them*:

First, Romanticism believed that human nature is innately good, and should therefore be encouraged to take its natural course, unspoiled by the artificial impositions of social prejudice and convention. Second, Romanticism

concluded that the child is neither a scaled-down, ignorant version of the adult nor a formless piece of clay in need of molding, rather, the child is a special being in its own right with unique, trustworthy – indeed holy – impulses that should be allowed to develop and run their course.

Hirsch's notion of progressive educational theory as romanticism is further explained by Muller (2001) in "Progressivism Redux: Ethos, Policy and Pathos". In this article, Muller (2001) pointed to Hirsch's explanation of progressive theory as stemming not from Dewey's initial reasoning of child-centered education, but rather from eighteenth century romanticism – thus, Hirsch's use of terminology. Muller agreed with Hirsch's assessment of the progressive movement as being a romanticized ideal of education. Within Muller's South African context, he reported that traditional education became associated with the apartheid regime, and was hence thrown out with the change of government. Progressive curriculum design theory was put into practice, as this romanticized ideal of education was looked upon to solve the educational problems of a post-1994 South Africa (Muller, 2004). Although not taken from an American perspective, the South African reaction to change in educational structure provides evidence for Hirsch's claims that progressive curriculum design is simply 'romanticism'.

Hirsch (2001) argued that the skills taught in school are artificial in the sense that given any 'natural' setting, a child would not automatically learn to read without having instruction. The same can be said for spelling.

The idea that skills as artificial and difficult as reading, writing and arithmetic can be made natural for everyone is an illusion that has been able to flourish in the peaceful, prosperous United States...We will begin to see widespread improvement in our public education only when we see widespread doubt cast on its endemic Romanticism. (Hirsch, 2001)

Inherent to reading, writing and math is the fact that they are unnatural, and unless taught and purposely developed, the skills will not develop beyond basics – thus, there cannot be any naturalistic teaching of subjects that are not naturalistic to begin with.

The utilitarian view of education saw the purpose of education for the greater societal needs. While the utilitarian idea saw a rise in both the vocational schools and in career based education in the 1920s through 1950s, the progressive ideal fought back (Ravitch, 2000; Pulliam & Van Patten, 1995). The "pedagogical progressives wanted the schools to focus on the learning needs and experiences of students in the

present”, rather than on what these students would need to know for future careers (Labaree, 2005). Furthermore, the progressives desired a minimization of the utilitarian vocational schools. Labaree (2005) pointed to the 1930s as the point at which the ethos of education saw a major change into vocational and career centered education. Even though progressive theory did make head-way into the utilitarian control of schools by the offering of non-academic courses, “the main thrust of the social efficiency curriculum, with its emphasis on vocational training and differentiated outcomes, was diametrically opposite to the core principles of the pedagogical progressives” (Labaree, 2005).

Despite the overwhelming view throughout World War II that education needed to take on a traditional stance, the progressive ideology did not subside. Many progressive schools arose, but quickly fell to the much needed and desired vocational training of students for careers that would serve society. Even amongst teachers that sympathized with the child-centered ideals of the progressivism movement, the pedagogic practices were far removed from true progressivism (Ravitch, 2000; Labaree, 2005).

Private progressive schools popped up, flourished for a while, and then typically reverted to the norm when the founder died or moved on. Public school systems that took the plunge likewise slipped back to a more traditional academic curriculum over time...Even teachers who really wanted to carry out child-centered instruction in their classrooms found themselves confined within a bureaucratic school system which mandated a differentiated and vocationally oriented curriculum that was not conducive to this kind of teaching. Under these circumstances, it is no surprise that teacher were more likely to adopt some rhetoric from pedagogical progressivism and to inject some token activity and movement into their classrooms than they were to implement the full Deweyan agenda. (Labaree, 2005)

Labaree (2005) claimed that although progressivism had a great impact on the jargon and greater ideals of education, the actual impact of progressivism was not pedagogically implemented.

Progressivism has had an enormous impact on educational rhetoric but very little impact on educational practice. Instruction in American schools is overwhelmingly teacher-centered; classroom management is the teacher’s top priority; traditional school subjects dominate the curriculum; learning consists of recalling what texts and teachers say; and tests measure how much of this students have learned. What signs there are of student-centered instruction and discovery learning tend to be superficial or short-lived. We talk progressive but we rarely teach that way. In short, traditional methods of

teaching and learning are in control of American education. The pedagogical progressives lost. (Labaree, 2005)

Research Findings on Traditional and Progressive Curriculum Types:

Within Chapter Two, it was argued that progressive educational theory has tried, time and time again, to make an impact on the traditional stance toward education. These progressive approaches were given many different terms, yet they all tried to accomplish the same feat – namely bringing education into the control of the child through a child-centered curriculum. Advocates of traditional education have argued that the progressive approach not only does not work on a whole scale basis, but that it is not based in foundational research. In fact, Pellegrino went as far as to state “Most current approaches to curriculum are based on theories and models not having kept pace with contemporary knowledge on how people learn” (Pellegrino, 2004). Progressive ideas have been implemented in the American educational system with little to no research basis upon which to stand (Chall, 1967). These theories were based on notion that the child should be educated naturally, but Hirsch (2001) argued, there is no such thing as learning naturally what is not natural. If progressivism, therefore, loses the battle within the naturalistic argument, where does this leave progressivism within the research framework?

Kirschner et al (2006) argued that “Controlled experiments almost uniformly indicate that when dealing with novel information, learners should be explicitly shown what to do and how to do it. A number of reviews of empirical studies have established a solid research-based case against the use of instruction with minimal guidance”. One of the studies that Kirschner et al (2006) referred to was Mayer (2004). Mayer’s (2004) research found that while minimal guidance had some merits⁴⁴, pure discovery learning failed miserably when formally research. Mayer did not hide his feelings when making his concluding remarks regarding pure discovery learning.

Like some zombie that keeps returning from its grave, pure discovery continues to have its advocates. However, anyone who takes an evidence based approach to educational practice must ask the same question: Where is the evidence that it works? In spite of calls for free discovery in every decade, the supporting evidence is hard to find. Until there is a reasoned, evidence-based argument for pure discovery, the best course for constructivist-oriented

⁴⁴ See section 2.3.2 “Incorporating both methods” in Chapter Two

educators is to focus on techniques that guide students' cognitive processing during learning and that focus on clearly specified educational goals. (Mayer, 2004)

Mayer (2004) went on to give historical backing by stating: "Pure discovery did not work in the 1960s, it did not work in the 1970s, and it did not work in the 1980s, so after these three strikes, there is little reason to believe that pure discovery will somehow work today" (Mayer, 2004).

Kirschner's et al (2006) article proceeds from Mayer's (2004) conclusions that guided learning is the key to sustained academic growth. Even though teachers may find merit in pure discovery learning, there is relatively little research evidence that this type of learning is ever actually fully implemented. Even proponents of inquiry based learning Etherage and Rudinsky (2002) in their book *Introducing Students to Scientific Inquiry* state "Teaching about inquiry is challenging... While we believe that inquiry is a powerful way to teach science content, we also believe that unless the students are provided with a proper foundation, enabling them to grasp the meaning of scientific reasoning, teaching content through inquiry may be counterproductive. While advocates, therefore, for progressivism see merit in inquiry learning, there is a distinction between 'guided' and 'pure discovery' learning.

The basis for any instruction is an alteration of long-term memory. When instructing, therefore, the long-term memory must be actively engaged if there is to be any worthwhile acquisition of knowledge. Explicit teaching, Kirschner et al (2006) contends, activates the memory for long-term memory storage. In contrast, minimal guidance causes the student to use the working-memory in constructing knowledge as the student discovers 'new' material. When working-memory is stretched, however, it does not transfer into long-term memory.

All problem-based searching makes heavy demands on working memory. Furthermore, that working memory load does not contribute to the accumulation of knowledge in long-term memory because while working memory is being used to search for problem solutions, it is not available and cannot be used to learn. The consequences of requiring novice learners to search for problem solutions using a limited working memory or the mechanisms by which unguided or minimally guided instruction might facilitate change in long-term memory appear to be routinely ignored. (Kirschner et al, 2006)

Kirschner et al (2006) maintained that minimal guidance did not have long term effects on knowledge acquisition because it did not allow students to work with a part of their brain that contributed to long term memory.

Kirschner et al (2006) and Mayer's (2004) views of pure discovery learning was confirmed by a 1989 study by Clark. According to Kirschner et al (2006), Clark's study was conducted on low aptitude students who were either given unguided or minimally guided instruction, versus those students who were given explicit guidance and instruction. Those students that received unguided or minimally guided instruction received lower scores on their post-test than on the pre-test. Through this data, Clark's research seems to exhibit that not only does minimal guidance not improve student understanding of material, but it can have a negative affect on their knowledge base. It seems that in underperforming students minimal guidance instruction can have detrimental affects on future learning. Kirschner et al summarizes his concurrence with Mayer (2004) and Clark (Kirschner et al, 2006) by stating:

After a half-century of advocacy associated with instruction using minimal guidance, it appears that there is no body of research supporting the techniques. Even for students with considerable prior knowledge, strong guidance while learning is most often found to be equally effective as unguided approaches. Not only is unguided instruction normally less effective; there is also evidence that it may have negative results when students acquire misconceptions or incomplete or disorganized knowledge. (Kirschner et al, 2006)

Given the evidence outlined in this section, it can be surmised that a traditional curriculum design is not only evidenced by research to produce better academic results, but it is also based on realistic and non-romanticised notions of what education *can* be like. Although there have been many attempts to educate students in a pure discovery method, some of the authors quoted in this section have surmised that the 'pure discovery learning' was rather lip-service, and was not fully implement a pure version. Evidence was additionally offered to surmise that progressivism as a whole has not shown successes in practice and research. Therefore, as Muller states within "Progressivism Redux" the view and goal of progressivism is actually not the construction of knowledge, but rather enjoyment, social awareness and multi-cultural sensitivity (Muller, 2001).

Research evidence and historical backing, therefore, allows for the inference that in order to educate students with the best system of academics to acquire long-

term memory retention, a traditional curriculum design theory should be used. In conclusion, Hirsch's comment regarding traditional curriculum design theory solidifies this inference. "With as great certainty as these things can be known, we know that analytical and explicit instruction (traditional) works better for most learning than inductive, implicit instruction (progressive)" (Hirsch, 2001).

University of Cape Town

Appendix E:

Comparison of student profiles from the Reading Progress Study

University of Cape Town

Students	Schooling History	Interventions	Home Based Reading Practices	Reading Level Development		
				1 st Testing	2 nd Testing	Growth
Interrupted						
Henry	<ul style="list-style-type: none"> Transferred to AISCT in January 2007 from an international school in the Philippines; where he showed good academic standing Was educated at an international school in the Philippines for two years. Prior to this, he attended kindergarten and first grade in a American public school 	<ul style="list-style-type: none"> Received time-based interventions including: individual guidance in choosing independent reading books, guidance (page numbers and paragraphs) on reading comprehension quizzes Total Time Per week: 1.5 hours 	<ul style="list-style-type: none"> 20-40minutes each night= 2 hours – 3.5 hours per week reading Reads by himself, or to his little sister There were no strict reading requirements Reading more spontaneously and desires to read more difficult books. Types of books in the home: fiction, non-fiction, almanacs, dictionary, travel, reference, historical, children's literature. All of the books on open book shelves and were easily accessible. Rarely sought out these books for his own edification. 	40-1	50-2	1 1/3

Students	Schooling History	Interventions	Home Based Reading Practices	Reading Level Development		
				1 st Testing	2 nd Testing	Growth
Jenny	<ul style="list-style-type: none"> Transferred to AISCT in January 2007 from a preparatory school in Cape Town, South Africa. She showed good academic standing Due to the southern-hemisphere and northern-hemisphere schedule difference, skipped the first half of fourth grade Received a “Notice of Conditional Enrolment” due to the hemisphere schedule difference between the two schools 	<ul style="list-style-type: none"> Received interventions including: individualization of independent reading material, shortened required answers on questions, help with reading comprehension quizzes. Total Time Per week: 1.5 hours 	<ul style="list-style-type: none"> 2-3 hours reading each week Not required to read at night; generally spent about 30 minutes each week night Not shown a tremendous difference in her reading attitude toward books from previous school years Spent more time reading than in previous school years. Types of books in the home: fiction and non-fiction, rarely accessed these books. Family’s favorite store was Exclusive Books; the family browses or buys books at least once a week. 	40-1	50-2	1 1/3 Grade level increase

Students	Schooling History	Interventions	Home Based Reading Practices	Reading Level Development		
				1 st Testing	2 nd Testing	Growth
Ben	<ul style="list-style-type: none"> Transferred to AISCT in January 2007 from a Norwegian medium school in Norway. Very limited school records on file – only a notice of transfer included. No records indicating performance at or name of the school in Norway. 	<ul style="list-style-type: none"> English proficiency was low at time of enrolment at AISCT. Received individual English lessons just prior to starting at AISCT Received interventions including: individual English as a Second Language lessons three times a week, for forty-five minutes each; independent reading for at least one hour a week; assignments in reading and writing were shortened and given at a lower reading level. Total Time Per week: 4 hours 	<ul style="list-style-type: none"> Withdrew from AISCT in July 2007 – no further information available 	40-1	NA	NA

Students	Schooling History	Interventions	Home Based Reading Practices	Reading Level Development		
				1 st Testing	2 nd Testing	Growth
Jason	<ul style="list-style-type: none"> Transferred to AISCT in January 2007 from a preparatory school in Cape St. Frances, South Africa. School records show his performance to be average to weak. Completed grade four at Cape St. Frances school, and repeated the last semester of fourth grade again at AISCT. Previous school was a dual-medium, with a class size of 28-30. 	<ul style="list-style-type: none"> Received interventions including: repeat of half of fourth grade year; reading independently for at least one hour each week; private tutoring twice a week for one hour; provided with graphic organizer to help structure and scaffold work beyond his ability; assignments were shortened; participated in partner work when others were not allowed to; given page numbers to help answer comprehension questions; one-on-one instruction with classroom teacher for thirty minutes each week Total Time Per week: 4 hours 	<ul style="list-style-type: none"> Typically spent 15 minutes reading out loud to parents, and 30 minutes to himself each night- 3-4 hours of reading each night He read with his father each night, and spent time discussing the section of the book they read. Types of books in the home: non-fiction, encyclopedias, bird books, wildlife books and magazine such as Popular Mechanics. All were readily available, he seldom picked up these books to read on his own. Although he had a history of enjoying reading, he did not read nearly as much at previous school as he did at AISCT. Previous reading habits were sporadic 	38-2	40-2	1 Grade level increase

Students	Schooling History	Interventions	Home Based Reading Practices	Reading Level Development		
				1 st Testing	2 nd Testing	Growth
Rick	<ul style="list-style-type: none"> Transferred to AISCT in January 2007 from a school in Lagos, Nigeria. Finished the first half of fourth grade at previous school and thus, did not need to repeat, or skip any of his schooling because both of the schools followed a northern-hemisphere schedule Upon entrance exams, Rick was seen to have major reading deficiencies, and was given a "Notice of conditional enrolment". This required him to be enrolled in ESL classes. Educational Psychologist placed his reading level and developmental capacity at that of a kindergarten level. He was also found to be dyslexic and developmentally challenged 	<ul style="list-style-type: none"> Received time-based interventions including: ESL instruction three times a week, for forty-five minutes each; full day interventions due to the fact that he could not complete any of the fourth grade work; received one-on-one instruction in all subjects for as much time as possible Total Time Per week: Almost full time depending on one-on-one availability of teacher 	<ul style="list-style-type: none"> Due to concerns that AISCT was not able to provide Rick with the kind of instruction he needed to find success at school, Rick was asked to withdrawal from AISCT in July 2007. 	2-2	NA	NA

Students	Schooling History	Interventions	Home Based Reading Practices	Reading Level Development		
				1 st Testing	2 nd Testing	Growth
Permanent						
Tiffany	<ul style="list-style-type: none"> Enrolled at AISCT at the beginning of third grade Swedish national, and had previously been attending a Swedish-French dual-medium school in Sweden 	<ul style="list-style-type: none"> Received ESL instruction for the first eight months of third grade, and then discontinued due to achieving English proficiency 	<ul style="list-style-type: none"> Read on own initiative at home, in the car, or while eating breakfast, but is not required to read by her parents. Showed an increased level of interest in reading, and was reading harder books since beginning fifth grade Did not read every night, and may only read for about 15-30 minutes during spare time There were fiction books available in the house Every 3rd or 4th book read was in Swedish. 	50-2	60-2	1 Grade level increase

Students	Schooling History	Interventions	Home Based Reading Practices	Reading Level Development		
				1 st Testing	2 nd Testing	Growth
Len	<ul style="list-style-type: none"> Entered AISCT from a South African school at the beginning of second grade 	<ul style="list-style-type: none"> Received some modifications in spelling due to trouble with sight-words. No interventions regarding reading 	<ul style="list-style-type: none"> Typically spent +/- 2 hours reading each week Required to read for 30 minutes each night by his parents, but he did sometimes skips reading Showed an increased level of interest in reading grade level books. Since beginning fifth grade. Types of books in the home: design, architecture, travel, history and nature at home. These books were available, but he only sometimes perused these books. 	40-1	50-1	1 Grade level increase

Students	Schooling History	Interventions	Home Based Reading Practices	Reading Level Development		
				1 st Testing	2 nd Testing	Growth
Vince	<ul style="list-style-type: none"> Began his academic career at AISCT in kindergarten 	<ul style="list-style-type: none"> Did not received any modifications or interventions since starting school 	<ul style="list-style-type: none"> Typically read for 45 minutes to 1 hour per week. Not required to read at home by parents. No family rules about the amount of time spent watching TV or playing video games. During fifth grade began to read more challenging books, but time spent reading has not increased. There were mostly fiction books available at home. He sometimes read these books on his own accord. 	40-2	50-1	2/3 Grade level increase

Students	Schooling History	Interventions	Home Based Reading Practices	Reading Level Development		
				1 st Testing	2 nd Testing	Growth
Geoff	<ul style="list-style-type: none"> Entered AISCT at the beginning of third grade Prior to attending school at AISCT, he attended an international school in Lagos in Nigeria. 	<ul style="list-style-type: none"> He did not received any modifications or interventions since enrolling at AISCT 	<ul style="list-style-type: none"> Spent between 7-8 hours per week reading Not required to read at home by his parents. He reads for absolute love of books. His punishment was not being allowed to read. TV and computer games are treated as 'treats' or desserts after a meal, and are not the expected normative activity in the evening Began reading more reading more difficult books in fifth grade. Types of books in the home: history, fiction, nature, encyclopedia books at home. Had full access to these books and daily reads these types of books. Would read an encyclopedia for fun. 	50-2	70-2	2 Grade levels increase

Students	Schooling History	Interventions	Home Based Reading Practices	Reading Level Development		
				1 st Testing	2 nd Testing	Growth
Ivan	<ul style="list-style-type: none"> • He enrolled at AISCT at the beginning of third grade • Prior to attending AISCT, was enrolled at an international school in Dakar, Senegal. 	<ul style="list-style-type: none"> • He had not received any modifications or interventions since enrolling at AISCT 	<ul style="list-style-type: none"> • Typically spent 7-8 hours reading per week • Not required to read at home by his parents, but was encouraged to read when he was bored • Three days in each week were deemed “no electronics” days in his household • No significant changes in his reading patterns from fourth to fifth grades, but showed an increased level of interest in research. . • Types of books in the home: history, fiction and nature books at home, and in all rooms of the house. • Found and used these books sometimes, but he mostly used these books to discover answers to questions about various topics. 	50-2	70-2	2 Grade levels increase

Appendix F:

Letters of Consent and Reading Surveys from participants' parents

Letter to interrupted students' parents

19 April 2007

Dear *Parent*:

For those of you who do not know me, I am the fifth grade teacher at AISCT. I am writing to request permission from you to include your child in a research study that I am currently undertaking to obtain my Master's degree in Curriculum Studies from the University of Cape Town. I am writing my dissertation on how to form a curriculum at an international elementary school that must take account of both a transitory and permanent population of students. In order to write my dissertation, I need to conduct a case study based on the students at AISCT. The aim of my study is to determine the current reading level of educationally transient students, and then to track their progress and development through the next six months. I will also look at the type of curriculum that AISCT implements, the growth seen in your child's reading level, any extra lessons your child is receiving, and make a conclusion as to how these factors interact to benefit the students' reading level development. As your child has entered AISCT in the past four months, and is thus considered to have an educationally transient background, I would like to include your child in this study.

If you agree to have your child participate in this study, you will agree to the following conditions.

1. To have your child re-tested using the Developmental Reading Assessment (DRA) by me in the next two weeks, after school
2. Grant me access to your child's previous school's transcript and other past educational documents included within your child's school records at AISCT
3. Agree to participate in a short parent survey
4. Allow for tracking of any extra help that your child receives over the next eight months, including, but not limited to: ESL lessons, one-on-one teacher lesson, tutoring and help received at home
5. Allow the next DRA test, which will be conducted in October or November of your child's fifth grade school year, to also be included in the study

I can assure you that your child's progress and results in this study will be kept strictly confidential, and any references to your child in my dissertation will be done without your child's name. If at any time you would like to review the data that I have collected, or feel that you do not understand what I am collecting, I am very willing to share my studies.

I have also written a proposal for my dissertation that has been submitted to the University of Cape Town for acceptance. This is a detailed proposal outlining the entirety of my dissertation. If you would like to review a copy of this proposal, please let me know.

I would be very grateful to you if you would allow your child to be apart of this work that will not only help me to progress in my teaching knowledge, but also help AISCT in a goal to continually better the education given to your child. AISCT is aware of this study, and is in full support of your child's participation. If you have any questions, please feel free to email me at the address below, or to set up an appointment after school.

Please fill in the form on the next page and return it to me by Monday April 24, 2007.

Sincerely,

Kate Pritchard
Fifth Grade Teacher, AISCT
kpritchard@aisct.org.za

University of Cape Town

PERMISSION FORM TO PARTICIPATE IN THE CASE STUDY TO BE
COMPLETED
BY CATHEIRNE PRITCHARD, FOR COMPLETION OF
THE MASTER'S IN EDUCATION BY DISSERTATION PROGRAM,
UNIVERSITY OF CAPE TOWN

Please tick one box and fill in the details.

_____ No, I do not give permission for my child to be apart of this study

_____ Yes, I agree with the five conditions outlined below, and allow my child to take part in this study.

1. To have your child re-tested using the Developmental Reading Assessment (DRA)
2. Grant access to your child's previous school's transcript and other past educational documents included within your child's school records at AISCT
3. Agree to participate in a short parent survey
4. Allow for tracking of any extra help that your child receives over the next eight months, including, but not limited to: ESL lessons, one-on-one teacher lesson, tutoring and help received at home
5. Allow the next DRA test, to be conducted in October or November of your child's fifth grade school year, to also be included in the study

In order to conduct the DRA reading assessment, I will need about one hour after school, one day in the next two weeks. Please indicate the three best dates for you below.

Date Choice One: _____

Date Choice Two: _____

Date Choice Three: _____

Parents Printed Name: _____

Child's Name _____

Parent's signature: _____

Date: _____

Letter to uninterrupted students' parents

CATHERINE PRITCHARD
MASTERS DEGREE IN CURRICLUM STUDIES:
BY DISSERTATION ONLY
UNIVERSITY OF CAPE TOWN, 2007

23 August 2007

Dear *Parent*:

Last December I began research for a Master's degree in Educational Curriculum Studies at the University of Cape Town. My study takes the form of a dissertation entitled "A study of time-based interventions for transient international students in a traditional curriculum." Simply stated, I am studying the effects on students that have attended many different elementary schools, and correlating this with the type of curriculum and interventions that are put into place at schools to help these children succeed.

In the first part of my study, I tested five students that arrived at AISCT in January 2007. These students were all taken from the current fifth grade class. These students were tested using the Developmental Reading Assessment to determine their current reading levels upon entering AISCT. These same students will again be tested using the DRA information gathered at the end of September. In order to make comparisons the reading gains of these educationally transient students, I would like to ask permission to use your son in my study as a part of my comparison group. This comparison group will be made of students in the current fifth grade class whom have attended AISCT for a minimum of two full school years.

As your son will be tested using the DRA in September regardless of their participation in this study, this study simply requests permission to use this data, and the DRA score from the last term of fourth grade, in my study. I can assure you that full confidentiality will be kept in the writing of my dissertation. AISCT is aware of this study, and is in full support of your child's participation. I would be very grateful to you if you would allow your child to be apart of this work that will not only help me to progress in my teaching knowledge, but also help AISCT in a goal to continually better the education given to your child.

If you are willing, or not willing, to have your son/daughter participate, please sign the form on the following page and return it to me by Friday, August 31st. If you have any questions regarding the study, or the nature of the data that I propose to collect, please let me know. Likewise, if you would like to read my dissertation proposal that has been accepted at the University of Cape Town, I would be more than happy to provide you with a copy of this proposal. Once the study is complete, you will also have full access to the final dissertation. Thank you for your consideration of your child's participation in my study.

Sincerely,

Kate Pritchard

PERMISSION FORM TO PARTICIPATE
IN THE CASE STUDY TO BE COMPLETED
BY CATHEIRNE PRITCHARD, FOR COMPLETION OF
THE MASTER'S IN EDUCATION BY DISSERTATION PROGRAM,
UNIVERSITY OF CAPE TOWN

Please tick one box and fill in the details.

No, I do not give permission for my child to be apart of this study

Yes, I agree to allow my child's March 2007 and October 2007
Developmental Reading Assessment scores to be included in this study.

Parents Printed Name: _____

Child's Name _____

Parent's signature: _____

Date: _____

PLEASE RETURN THIS FORM NO LATER THAN
FRIDAY AUGUST 31ST.

You can turn this form into Brenda Roberts, or directly to Kate Pritchard

First parent survey of reading habits, given to interrupted and uninterrupted groups parents

CATHERINE PRITCHARD
MASTERS DEGREE IN EDUCATION:
BY DISSERTATION ONLY
UNIVERSITY OF CAPE TOWN, 2007
PARENT SURVEY OF READING HABITS

Child's Name: _____

Please answer the following questions with as much detail as possible. For many of the questions, you will be asked to approximate how much time is given to a certain reading activity per week. Please be accurate in your assessment, although it is understandable that this amount of time is dependent on the given week and schedule of that week.

1. On average, how much time does your child spend reading independently each week?

2. What types of books (genre, titles, or authors) does your child spend the most time reading?

3. Does your child read to you or other siblings? If yes, how often does this happen in a given week? How much time per week?

4. Do you read to your child? If yes, how much time do you spend reading to your child each week?

Second parent survey of reading habits, given to interrupted and uninterrupted groups parents

22 November 2007

Dear *Parent*:

As I analyzing the data that I have gathered on your child's reading progress for my Master's studies, I have come to realize that I need some additional information from you. I would greatly appreciate it if you would take the time to complete the chart included in this letter next week, and to answer the questions below. I realize that this chart and extra questions goes beyond what I had originally asked of you, but I would be most grateful if you would help me in this regard.

In the chart on the next page, you will find space to record how long your child spends reading or watching television/playing video/computer games. This chart asks you to observe approximately how long your child is spending each day of next week reading or watching television or playing video/computer games. The times do not need to be exact to the minute, but the more accurate you can be the better.

I would then ask that you complete the questions also on the next page. These questions relate to both the time tracking of reading next week, as well as some individual questions I have about your child's reading practices. If you would prefer to email me the answers to these questions, that if fine.

Please return both the chart and the answered questions to me before the close of school on December 7th. Thank you for your time, effort and continued support of my studies. I am most appreciative of your contributions!

Sincerely,

Kate Pritchard

**Time spent watching TV,
playing video/computer games or reading – in minutes
November 26 through November 30**

Activity	Monday	Tuesday	Wednesday	Thursday	Friday
Watching TV					
Playing video/computer games					
Reading					

1. Do you believe the above chart is an accurate reflection of the time spent in each task for a normal week?
 - a. If no, is the time spent reading generally greater or less than the week recorded? By how much?

2. Do you require your child to read each evening? If yes, for how long?

3. What are your family rules about how much TV/computer/video games may be played each day?

4. Since beginning fifth grade, how has your child's reading patterns at home changed from fourth grade? (please mention time, enjoyment, difficulties with reading, types of books, etc.)

5. Why types of books (history, fiction, nature, encyclopedias, etc.,) do you have in your home?
 - a. Are these books readily accessible to your child?
 - b. How often does your child take one of these books to read for enjoyment? (often, sometimes, never)

6. What is the primary spoken language at home?

7. How often does your child read books in another language?

Appendix G:

International Baccalaureate Program: Outline of program

There are three programs offered within the International Baccalaureate Program (IBO). The Diploma Year Program (DYP) is the high school program designed for students ages sixteen through nineteen. The DYP was the first program offered by the IBO, since one of the primary concerns in the initial development state of the IBO was to create an international program that would be a recognized degree by universities worldwide (Peterson, 1977). The Middle Years Program (MYP), for ages twelve to sixteen, was the second program to be developed. Eventually, the Primary Years Program (PYP), for ages three through twelve, was developed. The MYP and the PYP came out of a continued need to see an international education covering all grade levels. The DYP program is perhaps the most regimented program of the three, as students are required to take certain courses that would be traditionally labeled, such as “chemistry”, “French”, and so forth. Within the MYP and the PYP, the curricula has very little prescribed content – rather the pedagogical framework, skills to develop and methods of instruction are emphasized as the IBO ‘way’ (Hill, 2006).

As this study focuses on the elementary curriculum, the PYP curriculum will be explained in full detail. It should be kept in mind that the MYP and DYP stem from the same mission and purpose of education, and are implemented in the same vein as the PYP. The following information and explanation of the PYP comes directly from the IBO website and can be accessed: www.ibo.org/pyp/

When a school adopts the PYP, it is given an outline from which to formulate a specific curriculum. PYP curriculum is based around five essential elements: Understanding, Skills, Attitudes, Action and Knowledge. From these five main points, each unit of study within the PYP is developed from one of six ‘transdisciplinary themes’:

- Who we are
- Where we are in place and time
- How we express ourselves
- How the world works
- How we organize ourselves
- Sharing the planet

Within each of these themes, numerous units of study are developed. For example, regarding the theme “Who we are” differing grade levels could investigate families, communities, the human body, etc. There is no specific subject break down, but rather each unit of study is formed around one of these six themes, stemming from the essential elements of the curriculum.

IBO states that PYP’s main objective is to “assist students to become globally-minded citizens”. In order to accomplish this goal, the following chart was developed to explain the Student Learning Outcomes of the whole PYP program:

Inquirers	Their natural curiosity has been nurtured. They have acquired the skills necessary to conduct purposeful, constructive research. They actively enjoy learning and the love of learning will be sustained throughout their lives.
Thinkers	They exercise initiative in applying thinking skills critically and creatively to make sound decisions and to solve complex problems.
Communicators	They receive and express ideas and information confidently in more than one language, including the language of mathematical symbols.
Risk-takers	They approach unfamiliar situations without anxiety and have the confidence and independence of spirit to explore new roles, ideas and strategies.
Knowledgeable	They have spent time in our schools exploring themes which have global relevance and importance. In so doing, they have acquired a critical mass of significant knowledge.
Principled	They have a sound grasp of the principles of moral reasoning. They have integrity, honesty and a sense of fairness and justice.
Caring	They show sensitivity towards the needs and feeling of others. They have a sense of personal commitment to action and service.
Open-minded	They respect the views, values and traditions of other individuals and cultures and are accustomed to seeking and considering a range of points of view.
Well-balanced	They understand the importance of physical and mental balance and personal well-being.
Reflective	They give thoughtful consideration to their own learning and analyse their personal strengths and weaknesses in a constructive manner.

Table 8: IBO PYP Student Learning Outcomes (www.ibo.org)

Within this curriculum there are three main components – the written curriculum, the taught curriculum and the learned curriculum. The written curriculum answers the question *What do we want to learn?* and incorporates five essential elements of concepts, actions, skills, attitudes and actions.

The taught curriculum answers the question *How best will we learn?* Within this framework, students are to construct meaning from the world around them. Teachers support the child-centered learning by helping them to access their prior knowledge through providing new experiences, time and opportunity for reflection and consolidation of observations. Within this active learning, teachers are to help students construct a structured methodology for inquiry based learning. The inquiry learning is developed around seven open-ended questions: What is our purpose? What resources will we use? What do we want to learn? How best will we learn? How will we know what we have learned? How will we take action? To what extent did we achieve our purpose?

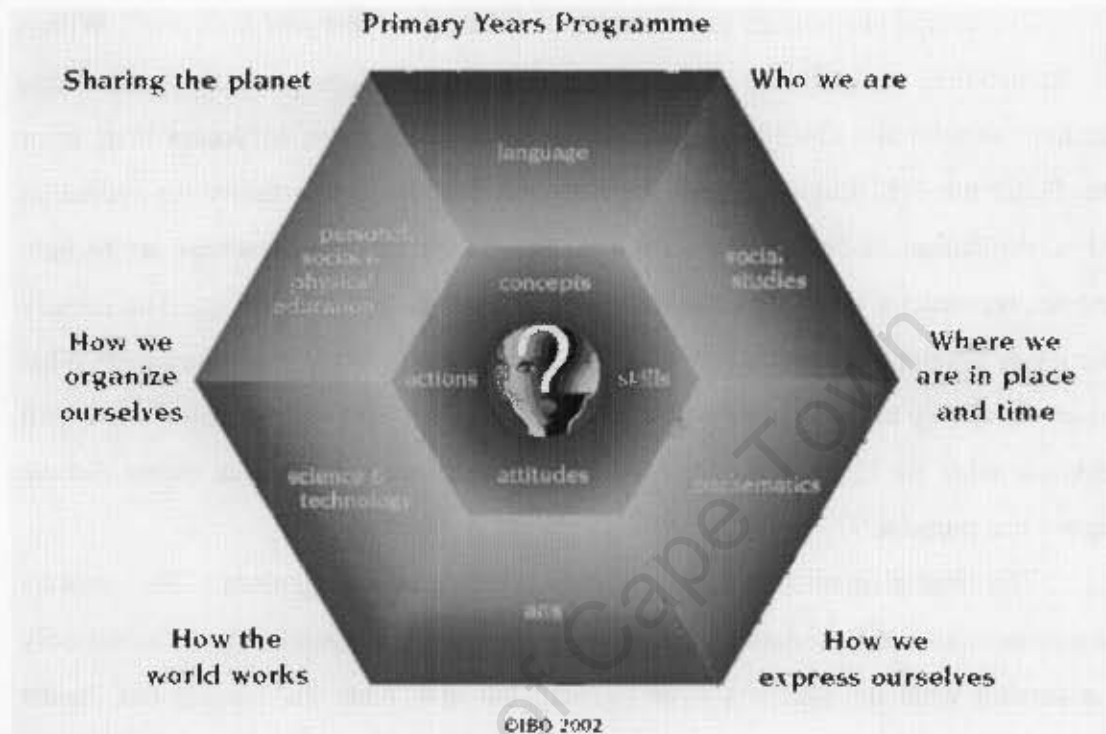
The final element of the curriculum is the learned curriculum. This answers the question *How will we know what we have learned?* This question relates not only to assessing what the students have learned, but also what the teacher has learned about how students learn, how to teach, and a critique of the unit of study. Assessment of learned material, through the above three components, is determined through six methods of assessment:

- determining what the student knows and understands about the world
- differentiate teaching and learning
- monitor student progress in terms of the student profile
- provide feedback to teachers, students and parents
- monitor the effectiveness of the program
- inform the professional development of teachers

The learned curriculum is further broken down into two categories, that of the Process of Inquiry and Strategies and Feedback. Within the Process of Inquiry, the teacher is to consider if the student has increased in substance and depth of understanding. In order to do this, the teacher must gauge if:

- the nature of the students' inquiry develops over time; whether they are, in fact, asking questions of more depth, which are likely to enhance their learning substantially
- the children are becoming aware that real problems require solutions based on the integration of knowledge that spans and connects several subject areas

- the children are mastering skills and accumulating a comprehensive knowledge base in order to conduct their inquiries successfully and find solutions to problems
- the children are demonstrating both independence and an ability to work collaboratively.

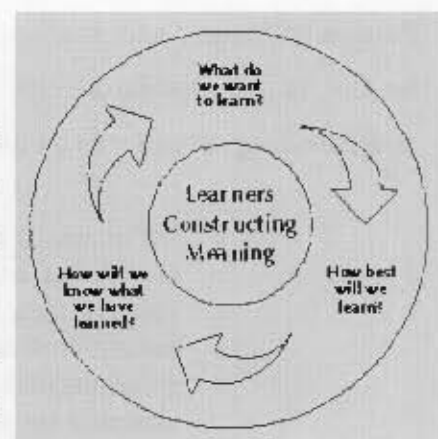


(www.ibo.org)

The Strategies and Feedback component is the written or more formal means of assessment. The IBO gives eight categories for means of assessment: writing samples, benchmarks and continuums, structured observations, anecdotal records, performance tasks, rubrics or guiding descriptors, portfolios of work, student-teacher-parent conferences. The goal of these assessment methods is to give an authentic assessment of the students. An IBO school will only conduct assessment with teachers in the school, and will not use set examinations from outside of the school as a means of assessment.

The diagram on the right is used by the IBO to pictorially explain how the three elements of the written, taught and learned curriculum work together so that the students are able to construct meaning individually.

The most comprehensive assessment that the PYP conducts is the Exhibition project, completed in



(www.ibo.org)

the final year of PYP. Students are expected to create an extended, collaborative inquiry project. The purpose of the Exhibition is to cumulatively show the knowledge gained about how to conduct inquiry based learning. When developing the Exhibition project, students are guided by teachers, but the project belongs to the students and the topic is chosen by the students. These projects are based on real-life questions and investigations. This final Exhibition also marks the transition from the PYP to the MYP.

Although the IBO PYP has been vastly accepted and implemented in international elementary schools, there are regions of the world that have encountered difficulties with putting an IBO program into place within state schools. There are virtually no non-western countries with an IBO program in state schools. Europe is the largest region in which IBO schools can be found, accompanied by some African, South American and Australian schools (Hill 2006; www.ibo.org). Although America does have a proportionally high number of IBO schools, there are very few state schools that have put the IBO program in place.

The public school district of Upper St. Clare School District in Pennsylvania adopted the DYP, MYP and PYP program for approximately 700 students within the district, leaving 85% of the total student population not participating in the program. Within two years, the IBO programs were cast out of the school district. The school board of Upper St. Clare found that the program was extremely costly, and promoted “Marxist, anti-Christian and un-American” values (Banks, 2006). The decision to “kill” the program came through a very tight 5-4 vote of the school board, with the District Superintendent in full support of continuing the program. Despite this close vote, Upper St. Clare is not the only school district to implement the IBO programs in state schools and then to later reverse the decision. Banks and Chute reported that other school districts within America also found that the IB promoted “socialism, disarmament, radical environmentalism and moral relativism, while attempting to undermine Christian religious values and national sovereignty” (Banks and Chute, 2006). According to Banks and Chute, board members at one school said IB “rejected the Judeo-Christian values held by the majority of families in our district and instead promotes the atheist, Secular Humanist principals of multiculturalism, one-world government and moral relativism...It’s a radical curriculum” (Banks and Chute, 2006).

Allen Quist, a writer for the website “EdWatch” agreed with these school districts that had voted to abolish the IBO programs in his article “The IB Curriculum.” Quist outlined the agreement between the individual schools and the IBO, and deems this relationship to be one of indoctrination. Quist explained in his article that although the IBO teaches students human values that are recognized as universal, and agreed upon through the Universal Declaration of Human Rights (UDHR) and the General Assembly of the United Nations in 1948, these values are held in higher esteem and with greater value than the values of “mere nationals that are less than universal” (Quist, 2007). Quist went on to explain that he viewed the IBO as an method of educational indoctrination that undermines the United States Constitution, Declaration of Independence and the Christian ethics of the United States as a whole. Although Quist raised questionable points about the IBO, his view point was taken seriously by state school districts that abolished the IBO program.

Despite Quist’s views, the IBO has seen success within some state schools both in the United States and other countries. This success is also compounded with the numerous private international schools that have implemented the IBO curriculum. .

Appendix H:

Developmental Reading Assessment testing materials

University of Cape Town

Name/Date _____ Teacher/Grade _____

Scores: Reading Engagement ___/9 Oral Reading ___/9 Printed Language Concepts ___/9
 Independent Range: 9 9 9

Book Selection Text selected by: teacher student

1. READING ENGAGEMENT

(If the student has previously answered these questions, skip this section.)

T: Who reads with you or to you at home? _____

T: Tell me about one of your favorite books. _____

2. ORAL READING

INTRODUCTION AND PREVIEW

T: In this story, Bath Time, a little girl is taking a bubble bath. She tells her mom what she can see. Each thing is a different color. Look at the pictures, and tell me what the little girl can see.

Note the student's ability to hold the book and turn pages. If the student names fewer than half of the objects, use your best judgment to decide whether you should proceed with the text.

T: Point to and read the title, and then say: I'll read the first page. As I read, I will point to each word with my finger. Watch and listen. Read page 2.

T: Point to the first word on page 4, and say: Now, you point to the words as you read what else she can see.

RECORD OF ORAL READING

Record the student's oral reading behaviors on the Record of Oral Reading below and on the following page.

Page 4

I can see a blue fish.

Page 6

I can see a yellow duck.

Page 8

I can see a green frog.

Page 10

I can see a purple towel.

Page 12

I can see pink soap . . .

Page 14

and I can see bubbles.

After the student has read the last page, go back to the following pages and note the student's responses.

T: Turn to page 8. After showing the letter *g* on a card, say: **Find a word that begins with this letter.**

T: Turn to page 12. After showing the letter *p* on a card, say: **Find a word that ends with this letter.**

3. TEACHER ANALYSIS**ORAL READING, PERCENT OF ACCURACY**

Count the number of miscues that are not self-corrected. Circle the percent of accuracy based on the number of miscues.

Word Count: 34

Number of Miscues	4 or more	3	2	1	0
Percent of Accuracy	88 or less	91	94	97	100

- If the student's number of miscues is 3 or less, continue the assessment with a Level 3 text.
- If the student's number of miscues is 4 or more, complete the *DRA2* Continuum and Focus for Instruction.

***DRA2* Continuum and Focus for Instruction**

1. Circle the descriptors on the *DRA2* Continuum that best describe the student's reading behaviors and responses.
2. Use the student's profile of reading behaviors to identify instructional needs on the *DRA2* Focus for Instruction.

At another time, administer *DRA Word Analysis*, Tasks 1 through 7.

DRA2 CONTINUUM		LEVEL 2			EMERGENT READER				
	EMERGING			DEVELOPING			INDEPENDENT		
Reading Engagement									
Literacy Support	1 No response or is uncertain			2 Names at least one person who reads with him or her at home			3 Names several people who read with him or her at home		
Favorite Book	1 No response or is uncertain			2 Tells something about a favorite book			3 Gives title and shares some specific details about favorite book		
Book-Handling Skills	1 Relies on others to hold and turn pages of a book			2 Holds and/or turns pages of a book when prompted			3 Holds and turns pages of a book independently		
Score	3 4 5			6 7 8			9		
Oral Reading									
Monitoring/Self-Corrections	1 Detects no miscues			2 Self-corrects at least 1 miscue and neglects to self-correct other miscues			3 Self-corrects 2 or more miscues or reads accurately (no miscues or self-corrects all miscues)		
Use of Cues	1 Often neglects cues (e.g., pictures, sentence pattern, visual information)			2 Uses cues (e.g., pictures, sentence pattern, visual information) at times			3 Uses cues (e.g., pictures, sentence pattern, visual information) most of the time		
Accuracy	1 88% or less			2 91% or 94%			3 97% or 100%		
Score	3 4 5			6 7 8			9		
Printed Language Concepts									
Directionality	1 No/little control of directionality on one line of text			2 Inconsistent control of directionality on one line of text			3 Controls directionality on one line of text		
One-to-One Correspondence	1 Slides finger; no one-to-one match			2 Points to words; inconsistent one-to-one match			3 Points to words; consistent one-to-one match		
Words/Letters	1 Demonstrates little understanding of the terms <i>begins</i> , <i>ends</i> , and <i>letter</i> ; unable to locate either word			2 Demonstrates some understanding of the terms <i>begins</i> , <i>ends</i> , and <i>letter</i> by locating 1 of the words			3 Demonstrates an understanding of the terms <i>begins</i> , <i>ends</i> , and <i>letter</i> by locating both words		
Score	3 4 5			6 7 8			9		

DRA2 FOCUS FOR INSTRUCTION FOR EMERGENT READERS

Reading Engagement

- Create structures and routines to support reading at home
- Model and support holding a book while previewing and reading
- Model and support turning the pages of a book while previewing and reading

Oral Reading

Teach how to:

- Monitor using one-to-one correspondence
- Monitor using known words
- Problem-solve unknown words by using beginning letter/sound relationships, pictures, and language structures
- Confirm word choice by using beginning letter/sound relationships, pictures, and language structures
- Self-correct miscues

Printed Language Concepts

Model and support:

- Directionality
- Concept of a letter and a word
- Concept of first and last letter of a word
- Concept of the terms *begins* and *ends*
- Concept of the terms *letter* and/or *sound*
- One-to-one correspondence

OTHER

University of Cape Town

Name/Date _____

Teacher/Grade _____

Scores: Reading Engagement ___/8 Oral Reading Fluency ___/16 Comprehension ___/24
 Independent Range: 6–7 11–14 17–22

Book Selection Text selected by: teacher student

1. READING ENGAGEMENT

Ask the student to bring his or her completed Student Reading Survey to the conference.

2. ORAL READING FLUENCY

INTRODUCTION

*T: This informational text, *The Amazing Octopus*, tells some interesting facts about the octopus. Please read aloud to the star on page 2. Show the student where to stop reading at the *.*

RECORD OF ORAL READING



Record the student's oral reading behaviors. Note the student's fluency (expression and phrasing). Be sure to time the student's reading.

Page 2

The Octopus

Deep in the ocean lives a creature known for its tricks. It can get out of the tightest places. It can change its shape and its color in less than a second. This creature is **coldblooded** and is called an octopus. More than 150 kinds of octopuses can be found around the world. The smallest is the size of a thumb. The biggest is more than 20 feet from arm tip to arm tip.

An octopus has no **backbone**. It has a body shaped like a balloon that is covered by a **mantle**. It has eight arms. Each arm has rows of **suckers**. Most kinds of octopuses have about 2,000 suckers. These suckers help an octopus to pick up and eat food. They also help it to cling to a hiding place. Octopus arms are always busy. They use their arms to walk, crawl, dig, and eat.

An octopus has two eyes. It can turn its eyes in half circles without moving its head. Its eyesight is very sharp. An octopus uses **gills** and a **funnel** for breathing. Its funnel also helps the octopus move through water.

Time: _____ minutes:seconds

ORAL READING WORDS PER MINUTE, PERCENT OF ACCURACY

Use the student's oral reading time to circle the WPM range.

Word Count: 189

Minutes:Seconds	2:43 or more	2:42–1:54	1:53–1:24	1:23 or less
WPM	69 or less	70–99	100–135	136 or more

Count the number of miscues that are not self-corrected. Circle the percent of accuracy based on the number of miscues.

Number of Miscues	9 or more	7–8	5–6	3–4	1–2	0
Percent of Accuracy	95 or less	96	97	98	99	100

If the student's score falls in one or both of the shaded areas above, stop this assessment. Reassess with a lower *DRA2* text level at another time.

3. COMPREHENSION

PREDICTION

Students do not use the text when making their predictions.

T: *Follow the directions on the first page of your Student Booklet. After you have finished your predictions, come to me (or raise your hand).*

Note: For students who have an Individual Education Plan in place for reading and/or written communication, follow the directions in their plan. You may read aloud the prompts in the Student Booklet and/or scribe their responses if required. Give no additional prompts.

While the student completes the Prediction page, complete the Teacher Analysis of Oral Reading on the next page and circle the descriptors on the *DRA2* Continuum that best describe the student's oral reading fluency.

Note: After the student has completed the Prediction page, continue with the assessment if time permits. Otherwise, have the student read the book and complete the Student Booklet at another time.

STUDENT READS AND RESPONDS

All students may use the text to complete pages 2–4 of the Student Booklet.

T: Read the story. When you are finished, write a summary of what you have read and answer the remaining questions in the Student Booklet. If you have questions, please come to me (or raise your hand).

4. TEACHER ANALYSIS

ORAL READING

If the student had 5 or more different miscues, use the information recorded on the Record of Oral Reading to complete the chart below.

Student problem-solves words using: <input type="checkbox"/> blending letter sounds <input type="checkbox"/> letter-sound clusters <input type="checkbox"/> onset and rime <input type="checkbox"/> knowledge of spelling patterns (analogies) <input type="checkbox"/> syllables <input type="checkbox"/> rereading <input type="checkbox"/> no observable behaviors	Number of miscues not self-corrected: ____ Number of words told to the student: ____	
	Miscues interfered with meaning: <input type="checkbox"/> never <input type="checkbox"/> at times <input type="checkbox"/> often	Miscues included: <input type="checkbox"/> omissions <input type="checkbox"/> insertions <input type="checkbox"/> reversals <input type="checkbox"/> substitutions that were <input type="checkbox"/> visually similar <input type="checkbox"/> not visually similar
<p>Copy each substitution to help analyze the student's attention to visual information. e.g., <u>stickers</u> (substitution) suckers (text)</p>		

Oral Reading Rate: (Optional) Use the formula below to determine the student's exact oral reading rate. Convert the student's reading time to all seconds.

$$189 \text{ (words)} \div \text{_____ total seconds} = \text{_____ WPS} \times 60 = \text{_____ WPM}$$

DRA2 Continuum

- Use the information from the Student Reading Survey and the Student Booklet to circle the descriptors that best describe the student's responses.
- Add the circled numbers to obtain a total score for each section.
- Record the scores at the top of page 1.

Note: If the Comprehension score is less than 11, administer DRA2 with a lower level text.

Name/Date _____

Teacher/Grade _____

DRA2 CONTINUUM				
	INTERVENTION	INSTRUCTIONAL	INDEPENDENT	ADVANCED
Reading Engagement				
Wide Reading	1 Title(s) below grade level; limited reading experiences and book knowledge	2 2–3 titles slightly below grade level; some reading experiences	3 At least 4 titles from 2–3 genres or multiple books from 1 genre; generally on-grade-level texts	4 Wide variety of titles across 3 or more genres; many on- and above-grade-level texts
Self-Assessment/Goal Setting	1 No strengths and/or goals related to the reading process; no real plan	2 General strengths and goals (e.g., read more); general plan	3 At least 1–2 specific strengths and goals related to the reading process; relevant plan	4 3 specific strengths and goals related to the reading process; 2–3-step plan
Score	2 3	4 5	6 7	8
Oral Reading Fluency				
Expression	1 Monotone; very little expression	2 Some expression that conveys meaning	3 Expression emphasizing key phrases and words at times	4 Expression emphasizing key phrases and words effectively
Phrasing	1 Mostly word-by-word	2 Inappropriate pauses; shorter phrases most of the time	3 Generally appropriate pauses; heeds most punctuation; longer, meaningful phrases most of the time	4 Appropriate pauses; heeds all punctuation; consistently longer, meaningful phrases
Rate	1 69 WPM or less	2 70–99 WPM	3 100–135 WPM	4 136 WPM or more
Accuracy	1 95% or less	2 96%	3 97%–98%	4 99%–100%
Score	4 5 6	7 8 9 10	11 12 13 14	15 16
Comprehension				
Questioning/Prediction	1 Illogical or unrelated question(s) and/or prediction(s)	2 1–2 reasonable questions and/or predictions related to the text	3 At least 2 reasonable questions and predictions that go beyond the text read aloud	4 At least 3 thoughtful questions and predictions that go beyond the text read aloud
Summary	1 1–2 ideas/facts in own language and/or copied text; may include incorrect information	2 Partial summary; generally in own language; some important ideas/facts; may include misinterpretations	3 Summary in own language; includes many important ideas, some vocabulary, and supporting facts from each section	4 Summary in own language; includes all important ideas, key vocabulary, and supporting facts from each section
Literal Comprehension	1 Little information from the text and/or incorrect information	2 Partial information from the text; may include misinterpretation	3 Information from the text that accurately responds to question(s) or prompt(s)	4 All important information from the text that effectively responds to question(s) or prompt(s)
Interpretation	1 Little or no understanding of important text implication(s)	2 Partial understanding of important text implication(s); little or no detail	3 Understands important text implication(s); relevant supporting details	4 Insightful understanding of important text implication(s); important supporting details
Reflection	1 Insignificant or unrelated message or information; no reason for opinion or no response	2 Less significant message or information and general reason(s) for opinion	3 Significant message or information and a relevant reason for opinion	4 Significant message or information and reason(s) for opinion that reflect higher-level thinking
Metacognitive Awareness	1 Unrelated or no example(s); may copy a strategy	2 General or limited example(s)	3 At least 1 specific example from the text related to the identified strategy; may include details	4 At least 2 specific examples from the text related to the identified strategy; includes details
Score	6 7 8 9 10	11 12 13 14 15 16	17 18 19 20 21 22	23 24

The Amazing Octopus 40

Choose three to five learning/teaching activities on the *DRA2* Focus for Instruction on the next page.

DRA2 FOCUS FOR INSTRUCTION

READING ENGAGEMENT

Wide Reading

- Teach student strategies to select appropriately leveled texts for independent reading
- Introduce student to reading materials from a variety of genres and purposes
- Teach strategies to build reading stamina
- Create structures and/or routines to support reading at home
- Develop and monitor clear expectations for amount of independent reading
- Teach student how to use a reading log to monitor book selection and set reading goals

Self-Assessment/Goal Setting

- Model and discuss strategies good readers use
- Help student identify 1–2 reading goals and a plan of action to improve reading
- Support revision of ongoing reading goals

ORAL READING FLUENCY

Expression and Phrasing

- Model and teach reading in longer, meaningful phrases with appropriate expression
- Have student practice appropriate expression with familiar texts
- Teach student to recognize and emphasize key phrases and words
- Teach student to heed punctuation

Rate

- Provide materials and time for repeated readings and timed readings to increase reading rate
- Give opportunities for student to read lower level and/or familiar texts at an appropriate rate

Accuracy: Word Analysis

- Support and reinforce self-corrections of miscues
- Model and support how to take words apart (e.g., onset and rime, syllables) to problem-solve unknown words
- Teach how to use word chunks and analogies to problem-solve unknown words
- Provide spelling activities and word sorts to help student recognize patterns in words

COMPREHENSION

Questioning/Prediction

- Provide opportunities for student to make and confirm predictions based on title, table of contents, and headings
- Model and support using background information to make meaningful predictions
- Model and teach student how to pose questions as a basis for predictions

Summary

- Share and identify characteristics of good summaries
- Model and co-construct written summaries of texts read aloud
- Model and support how to distinguish between more important and less important ideas and facts
- Model and support how to write a summary in one's own words
- Model and support how to use examples from the text
- Teach student how to use headings to organize a summary of an informational/nonfiction text
- Provide time for student to practice oral and written summaries

Literal Comprehension

- Show student how to use key words to identify specific information from the text
- Provide opportunities for student to answer and construct literal questions
- Model and support how to locate and use nonfiction text features (e.g., charts, graphs, maps, tables, headings, glossary, bold words, etc.)
- Teach student how to use and construct graphic organizers to keep track of key ideas and facts

Interpretation

- Teach and share examples of inferences
- Provide opportunities for student to support inferences with information or examples from the text
- Give student opportunities to respond to and construct inference questions orally and in writing
- Model and support how to interpret nonfiction text features (e.g., how to read a chart or diagram)

Reflection

- Help student identify important information and/or key vocabulary in a variety of texts
- Demonstrate how to support opinion with details from the text

Metacognitive Awareness

- Model and teach comprehension strategies for nonfiction texts
- Provide opportunities for student to practice using a specific comprehension strategy (e.g., making connections, visualizing, etc.)
- Help student identify examples in a text where he or she used a specific strategy

OTHER

Name _____ Date _____

Teacher _____ Grade _____

BEFORE READING

PREDICTION

What questions did you have as you were reading the first part of this text?

- 1. _____

- 2. _____

- 3. _____

What do you think you will learn from reading the rest of this text?

- 1. _____

- 2. _____

- 3. _____

Let your teacher know when you have completed this page.

LITERAL COMPREHENSION

List 3 facts about an octopus.

Octopus Facts	
1.	_____
2.	_____
3.	_____

INTERPRETATION

What do you think would happen if there were no octopus predators in the ocean?

REFLECTION

What do you think is the most important thing about octopuses?

Tell why you think this is important.

The Amazing Octopus

METACOGNITIVE AWARENESS

Check 1 strategy that you used to help you understand this text.

- I recalled what I know about the topic.
- I asked myself questions as I read.
- I made connections.
- I decided what was important to remember.
- I thought about the reasons why things happened.
- I pictured what was happening.

Give at least 2 specific examples from this book that show how you used this comprehension strategy.

Reread what you have written to make sure your answers are the way you want them before you hand in your booklet.