

Wilfrid Laurier University

Scholars Commons @ Laurier

---

Theses and Dissertations (Comprehensive)

---

2016

## THE EFFECT OF BALANCED STRATEGY INSTRUCTION ON ENGLISH LANGUAGE LEARNER LITERACY

Jacqueline R. Wettlaufer

Wilfrid Laurier University, wett8900@mylaurier.ca

Follow this and additional works at: <https://scholars.wlu.ca/etd>



Part of the [Curriculum and Instruction Commons](#)

---

### Recommended Citation

Wettlaufer, Jacqueline R., "THE EFFECT OF BALANCED STRATEGY INSTRUCTION ON ENGLISH LANGUAGE LEARNER LITERACY" (2016). *Theses and Dissertations (Comprehensive)*. 1818.  
<https://scholars.wlu.ca/etd/1818>

This Thesis is brought to you for free and open access by Scholars Commons @ Laurier. It has been accepted for inclusion in Theses and Dissertations (Comprehensive) by an authorized administrator of Scholars Commons @ Laurier. For more information, please contact [scholarscommons@wlu.ca](mailto:scholarscommons@wlu.ca).

(THE EFFECT OF BALANCED STRATEGY INSTRUCTION  
ON ENGLISH LANGUAGE LEARNER LITERACY)

by

(Jacqueline R.A. Wettlaufer)

(Hon. B.Sc., University of Guelph, 1989)

(B. Ed., Mount Allison University, 1990)

THESIS

Submitted to the Graduate Faculty of Education

in partial fulfillment of the requirements for

(Master of Education)

Wilfrid Laurier University

© (Jacqueline R.A. Wettlaufer) 2016

### **Abstract**

English Language Learner (ELL) achievement on standardized testing in a second language (L2; English) has been shown to be compromised due to L2 literacy deficits demonstrated by many of these students (Cheng, Fox, & Zheng, 2007; Solorzano, 2008; Zheng, Cheng, & Klinger, 2007). ELL achievement results on the Ontario Secondary School Diploma (OSSD) literacy requirement, the Ontario Secondary School Literacy Test (OSSLT), have remained consistently a minimum of 10% below that of students whose first language (L1) is English (Education Quality and Accountability Office, 2015a). The focus of this quasi-experimental study was to improve ELL L2 literacy, specifically achievement of reading skills, using a targeted intervention which consisted of a series of balanced strategy literacy sessions. This explicitly instructed balanced strategy literacy program was delivered in an after school format to secondary school ELL students who were randomly assigned to treatment (use of L1 and L2) and sub-treatment groups (use of L2 only). Balanced strategy instruction utilized the construction-integration model of reading comprehension (Kintsch, 1988) as a direct application of social-cognitive constructivist theory to engage students in the building of L2 literacy skills through choral reading, guided reading, independent reading, peer discussions and high interest vocabulary development. Research results indicated that the treatment method used did not have a significant effect on ELL achievement of reading skills in L2, as measured by the 2014 OSSLT in comparison to pre-intervention achievement on the 2010 OSSLT. Research results also indicated higher achievement levels on the 2014 OSSLT for ELL students who had greater exposure to L2 development (e.g., prior courses, daily practice). Following the study, the ELL students' development of L2

literacy skills continued within the context of secondary school credit courses towards successful completion of the OSSD. These findings suggest that more research is needed to determine the effective implementation of balanced strategy literacy programming as a support to ELL demonstration of graduation diploma requirements.

*Keywords:* balanced strategy instruction, construction-integration model, English Language Learners, literacy, reading comprehension, social-cognitive constructivist theory, standardized testing

### **Dedication**

To my mother, Bertha Renaud, who inspired me to continue my education beyond her experience of a one room school house in rural Ontario – thanks for being that constant lighthouse of faith in my abilities as an educator and as a leader. From you I learned the value of excellence in community leadership.

## Acknowledgements

- This completed research in its entirety is a direct result of the cutting edge in leadership education provided by the professors in the Masters of Education Leadership graduate degree program of Wilfrid Laurier University. My thanks to each of the professors within the WLU Education Department for delivering such outstanding evocative leadership training over the past four years. Special thanks and acknowledgement to the work of my thesis advisors, Dr. Steve Sider and Dr. Carolyn FitzGerald for their wisdom, guidance and grace with quantitative research methodology and writing. Additional thanks extended to Dr. Jordana Garbati for the highly effective writing consultations over the past three years.
- This research was also made possible by the permissions granted by the Waterloo Catholic District School Board. I remain appreciative of the entrusted belief in my ability to pursue educational research for the purposes of improving international student experience with reading skills and demonstration of these skills on the Ontario Secondary School Literacy Test. Special thanks to Supervisory Officer Dr. Laura Shoemaker, Principal of Learning Opportunities Grants Mr. Paul Cox, Consultant for English as a Second Language Students Ms. Carrie Mage, and Principal Mr. John Dietrich for their permissions and combined financial support of this research program having funded the Ontario Certified Teacher who instructed the students and numerous professional translators that were accessed through Learning Opportunities Grants and various associated budgets. I would also like to acknowledge the creative and dedicated teaching practice of Mr. Phil Lehmann who went above and beyond in the delivery of programming for the students in this research study – know that it is because of your teaching excellence that the students in this program were able to be so successful in their studies.
- Further, I would like to acknowledge the consistent teamwork with EQAO: CEO Mr. Bruce Rodrigues and Senior Communications Officer Ms. Kathleen Garrett. Support of the work in this research through providing answers to the many questions asked about policy and practice have reinforced the quality and excellence of programming for Ontario students on both the provincial and international levels. Special acknowledgement to the lead Psychometrician on the OSSLT Mr. Nizam Radwan, the Director of Data and Support Services for EQAO Ms. Angela Hinton and the research and statistics team from EQAO who provided key statistical information about OSSLT test metrics – your efficiency and accuracy is truly appreciated.
- To the twenty international students who opened their minds to the possibility of deepening their understanding of reading in English, thank you. Your commitment to the program and the daily activities was evident in your enthusiasm for class discussions and never-ending questions of ‘why’ and ‘how do you know which answer is correct?’

- Finally, an extended thanks to my family and friends for their encouragement throughout this process – I couldn't have finished this project without your positive energy! Know that because of your patience with my continued rejection of invitations to social gatherings, you gave me the hope of one day finishing this important task and that in the end, you would be there waiting.

**Table of Contents**

Abstract .....	ii
Dedication .....	iv
Acknowledgements .....	v
Table of Contents .....	vii
List of Tables .....	ix
List of Figures .....	xi
List of Appendices .....	xii
List of Acronyms .....	xiii
Chapter 1 Introduction .....	1
Locating the Researcher within the Research. ....	1
Defining Literacy. ....	3
The Importance of Being Literate .....	5
Chapter 2 Literature Review .....	11
Reading Comprehension Theory.....	11
Application of Theory to the Development of ELL L2 Literacy .....	17
Research Question and Hypotheses .....	28
Chapter 3 Methodology .....	31
Participants .....	31
Materials.....	35
Procedure.....	40
Chapter 4 Results .....	49
Establishment of Context for Analyses.....	49



Post-Intervention Sub-Group Achievement Analyses. ....	58
Post-Intervention Cohort Achievement Analyses. ....	67
Multiple Regression Analyses.....	89
Chapter 5 Discussion .....	94
ELL Sub-Group Achievement of Reading Skills.....	94
Limitations of Application of Findings from this Research Study. ....	107
Overall Cohort Achievement of L2 Reading Skills and Language-Based Variables. ....	114
Application of Research Results to Preparation of ELL Students for the OSSLT. ....	121
Recommendations for Future Research. ....	128
References.....	131
Appendix A.....	142
Appendix B.....	143
Appendix C.....	149
Appendix D.....	151
Appendix E.....	157
Appendix F.....	158
Appendix G.....	159
Appendix H.....	162
Appendix I.....	167

### List of Tables

Table 1 Typical Secondary School Credit Achievement Totals for OSSLT Eligibility .....	10
Table 2 Research Study Participant Demographics.....	32
Table 3 Research Study Timeline from 2010 OSSLT Pretest to 2014 OSSLT .....	46
Table 4 Independent Samples T-Test Results for Sub-Group Equivalencies.....	53
Table 5 Independent Samples T-Test Results for 2010 OSSLT Pretest Achievement.....	58
Table 6 Independent Samples T-Test Results for 2009 OSSLT Posttest Achievement .....	61
Table 7 Independent Samples T-Test Results for 2014 OSSLT Achievement .....	66
Table 8 Independent Samples T-Test Results for Attendance on 2014 OSSLT Achievement .....	69
Table 9 Correlation (Pearson $r$ ) for Attendance and 2014 OSSLT Achievement .....	71
Table 10 Paired Samples T-Test Results for 2010 Pretest to 2014 OSSLT Achievement .....	72
Table 11 Correlation (Pearson $r$ ) for 2010 OSSLT Pretest and 2014 OSSLT Achievement .....	74
Table 12 Independent Samples T-Test Results for Foreign Equivalency English Credits on 2014 OSSLT Achievement.....	78
Table 13 Independent Samples T-Test Results for L2 Credits on 2014 OSSLT Achievement .....	81
Table 14 Correlation (Pearson $r$ ) for L2 Credits and 2014 OSSLT Achievement.....	83

## Table 15 Independent Samples T-Test Results for ESL Courses on 2014 OSSLT

Achievement ..... 85

## Table 16 Independent Samples T-Test Results for Grade 9 English on 2014 OSSLT

Achievement ..... 87

Table 17 Correlation (Pearson  $r$ ) for L2 Literacy Exposure and 2014 OSSLT

Achievement ..... 89

Table 18 Collinearity Statistics for the 2014 OSSLT ..... 90

**List of Figures**

Figure 1 Normal histogram distribution of 2010 OSSLT pretest achievement data. ....	55
Figure 2 Linear P-P plot of 2010 OSSLT pretest achievement data.....	56
Figure 3 Scatterplot of 2010 OSSLT pretest achievement data.....	57
Figure 4 Normal histogram distribution of 2014 OSSLT achievement data. ....	63
Figure 5 Linear P-P plot of 2014 OSSLT achievement data. ....	64
Figure 6 Scatterplot of 2014 OSSLT achievement data. ....	65

**List of Appendices**

Appendix A Quantifying English Language Levels of Completion.....	142
Appendix B 2010 OSSLT Pretest.....	143
Appendix C Student Questionnaire .....	149
Appendix D 2009 OSSLT Posttest .....	151
Appendix E 2010 OSSLT Pretest Student Answer Key.....	157
Appendix F 2009 OSSLT Posttest Student Answer Key.....	158
Appendix G Reliability and Validity Statistics.....	159
Appendix H Interventions At-A-Glance .....	162
Appendix I Balanced Literacy Strategies .....	167

**List of Acronyms**

ELL	English Language Learner
EQAO	Education Quality and Accountability Office
ESL	English as a Second Language
FTE	First Time Eligible
IEP	Individualized Education Plan
IIRs	Individualized Item Reports
L1	The First Language of a Student
L2	The Second Language of a Student; English
OECD	The Organisation for Economic Co-operation and Development
OLC	Ontario Literacy Course
OSSD	Ontario Secondary School Diploma
OSSLT	Ontario Secondary School Literacy Test
PE	Previously Eligible
PISA	Programme for International Student Assessment
R1	OSSLT Reading Skill – Explicit
R2	OSSLT Reading Skill – Implicit
R3	OSSLT Reading Skill – Making Connections
STEPs	Steps to English Proficiency program
UNESCO	United Nations Educational, Scientific and Cultural Organization

## Chapter 1 Introduction

### Locating the Researcher within the Research.

Literacy has remained at the core of my work as an educator for over two decades. Refining the ability of a student to access knowledge from the curriculum through the implementation of guided reading strategies for technical texts and then having the student apply that knowledge to technical writing, guided my work in the early years of my career as a secondary school Science teacher. This consistent focus on literacy led to a position of leadership with the school's Literacy Committee at a time when the demonstration of literacy via the Ontario Secondary School Literacy Test (OSSLT) was identified as a requirement for the successful acquisition of an Ontario Secondary School Diploma (OSSD). My work as the Program Head of Literacy was multifaceted and this exposure to a variety of subject areas combined with the genuine intention to help students improve their literacy skills led to yet another leadership role in the position of Student Success Teacher. In this unique role, I was able to work cohesively with colleagues in the professional quest to improve student achievement, particularly the acquisition of the literacy diploma requirement. Workshops for students on various facets of the reading and writing processes in tandem with workshops for teachers on the effective implementation of literacy strategies (e.g., word walls, guided reading) led to remarkably improved results with credit accumulation rates and improved achievement on the OSSLT. Each of these roles over the years shared commonalities with purposeful implementation of practical strategies for both teachers and students to improve literacy.

My quest for continuous improvement in student learning led to the natural next step and current role in my career as a secondary school Vice-Principal. I refined my ability to review student achievement data to identify gaps or inconsistencies in performance and then use these

findings as a guide to determine next steps with professional development for teaching staff. As a collaborative member of the Literacy School Learning Team at a very large urban high school with a student population that was comprised of remarkably different socio-economic and cultural backgrounds, I became keenly aware of significant differences in achievement within the student population. Following my first implementation of the OSSLT at this location, I immediately identified a gap in the achievement data that exposed a vulnerable group of students whose success rate on the literacy requirement was significantly below that of their peers (a difference of greater than 25%). Upon drilling down further into the data, it became apparent that these students were all English Language Learners (ELLs) enrolled in various levels of ESL classes. Although we focused our work as a team on the narrowing of this apparent gap, I found it intriguing that even with this dedication to augmenting instruction with a variety of learning strategies, the gap in the achievement data remained persistent for the next three years.

I felt it was time to pursue a master's of education degree in order to improve my understanding of educational theory and its applications to professional contexts. Based on my initial review of current research and associated theories I began to wonder about the impact of the English as a Second Language (ESL) teacher being able to speak to students in each of the first languages (L1s) in tandem with intentional literacy instruction in their second languages (L2s). The opportunity to combine theoretical learning with the practical inquiry into the ELL achievement gap led to the creation of this project. Although this initial research study was designed with the students in mind from that large urban high school, when I was transferred to a smaller urban high school with a much less diverse student population, I discovered that the ELL achievement gap still existed. It was time to do some research of my own as to what could be a possible first step into closing this achievement gap, beginning with OSSLT performance.



**Defining Literacy.**

The demonstration of literacy in English is a fundamental component of graduation from secondary school in the Province of Ontario. In order for students to earn an OSSD, competency of both reading and writing skills at the achievement level of the provincial standard must be successfully demonstrated in English. Students in Ontario who are studying in English must demonstrate literacy in English, even if their L1 is a language other than English. ELL students are defined as students

whose first language is a language other than English, or is a variety of English that is significantly different from the variety used for instruction in Ontario's schools and may require focused educational supports to assist them in attaining proficiency in English.

(Ministry of Education, 2007a, p. 8)

Since 2002, in recognition of the unique linguistic background of students from across the province, the Ministry of Education has permitted for this literacy requirement to be completed via the Ontario Literacy Course (OLC) or the Ontario Secondary School Literacy Test (OSSLT). For more than a decade, OSSLT results have indicated that ELL achievement with L2 literacy consistently remains at a minimum of 10% below that of students whose L1 is English (Education Quality and Accountability Office, 2015a). Specifically, ELL achievement on L2 standardized testing has been shown to be compromised due to L2 literacy deficits in many of these students (Cheng, Fox, et al., 2007; Cheng, Klinger, & Zheng, 2009; Solorzano, 2008; Zheng et al., 2007). It has become paramount for educators to address this continued marginalization in the development of ELL L2 reading comprehension through the tailoring of targeted instruction since these achievement deficits in the demonstration of literacy skills have

identified inequalities in ELL student ability to read and write in English at a level equivalent to that of their provincial non-ELL peers (students of the same age cohort).

Reading comprehension can be defined as the “process of simultaneously extracting and constructing meaning through interaction and involvement with written language” (Graves, Juel, Graves, & Dewitz, 2011). When written language is anchored to prior knowledge, text meaning can be comprehended (Graves et al., 2011; McNamara & Kintsch, 1996; Nassaji, 2007; Sanjose, Vidal-Abarca, & Padilla, 2006). This meaningful acquisition of knowledge is a cognitive process that relies on the individualized scaffolded refinement of reading skills. Overt balanced strategy instruction focuses on the development and demonstration of reading skills comprised of (a) explicitly stated ideas and information, (b) implicitly stated ideas and information, and (c) making connections between information and ideas in a reading selection and personal knowledge and experience. These reading skills form the core of modern literacy, acting together in unison to build student knowledge and understanding into greater comprehension.

In this research study, the instructional delivery of reading skills through a series of balanced strategy literacy sessions was tailored to ELL development of literacy in fundamental alignment with the construction-integration model of comprehension (Kintsch, 1988) and constructivist theory of metacognition (Schunk, 2012). This method permitted the individual and large group engagement of ELL students in lessons that were interwoven with instructional strategies that supported the social nature of L2 reading skills acquisition. Each student continuously developed their L2 reading skills in relation to prior knowledge and then integrated these refined skills into purposeful consolidated practice. Concurrent with the development of L2 reading skills, some students were randomly assigned to a treatment group which additionally incorporated the use of L1 instructional strategies to support the acquisition of L2 literacy.

Reading achievement demonstrated by the treatment group was then compared to that of the ELL students who were exposed to L2 instructional strategies only. It was proposed that if the ELL students in the treatment group (use of L1 and L2 instruction) could successfully demonstrate L2 reading skills at an overall higher level than those ELL students who refined and practiced their reading skills using L2 instructional strategies only (as measured by the 2014 OSSLT) that such instructional best practices could be used as an ongoing support to ELL literacy development. As a result of this research, recommendations are shared regarding the use of L1 and L2 balanced literacy strategies in the role of education to improve ELL L2 literacy skills required for the successful completion of the graduation requirement.

### **The Importance of Being Literate**

The importance of improving ELL L2 literacy skills remains central to Ontario secondary school diploma acquisition. Literacy skills form the very basis of credit completion and literacy diploma requirement demonstration. Once the literacy graduation requirement is completed, students in Ontario become eligible for graduation. These secondary school graduates go on to enter the work force and, as literate citizens, engage in the many dynamic applications of print and written resources forming the basis of thriving twenty-first century societies.

**Globally.** Notably, literacy is an important growing global consideration. The global organization known as the United Nations Educational, Scientific and Cultural Organization (UNESCO) has defined literacy as a means for an individual to participate fully in society by realizing knowledge and potential from a continuum of learning within the various contexts of print and written materials (Canadian Literacy and Learning Network, 2015b; United Nations Educational Scientific and Cultural Organization, 2004). Growth in literacy rates is seen as an indication of improved national education standards and ultimately as an indication of the

productive lives of adolescents as they mature into adulthood and become active members of society (Cheng, 2012; Hardwood, 2012). Echoing this call for strong national education standards, the Programme for International Student Assessment (PISA; 2010) has identified literacy skills as a minimum requisite for the continued efficacy of learning in adulthood and for full participation of the individual in society.

**The Canadian perspective.** Many countries around the world, including Canada, seek to quantify how effectively their citizens realize their potential by collecting information about these literacy rates in order to identify areas for improvement with equity and quality of education programs. In Canada 42% of adults between the ages of 16 and 65 are reported as having low literacy skills (Canadian Literacy and Learning Network, 2015a; Organisation for Economic Co-operation and Development, 2015). Low literacy skills in Canadian students should be of national concern, given that many of our secondary school graduates enter the global economy with insufficient literacy skills. In order to address this insufficiency, the Ontario Ministry of Education, through a joint venture with the Education Quality and Accountability Office (EQAO), has emphasized the importance of English language literacy to secondary school graduation through the implementation of internationally-recognized mandatory standardized testing: the OSSLT. The OSSLT is a criterion-referenced standardized test used for the purposes of assessing secondary school student achievement of English literacy skills (in both reading and writing) at an equivalence of Grade 9 Ontario curriculum expectations. Successful completion of the Grade 9 English course (an OSSD requirement) is considered to be essential in the ability of all students to demonstrate functional literacy. For ELL students, this essential demonstration occurs in their L2.

**The Ontario perspective.** The Organisation for Economic Co-operation and Development (OECD; 2015) has identified both equity and quality of education as key policy issues for ELL students throughout Canada. From 2003 to 2015, one in four Ontario students reported that their L1 learned at home was a language other than English (Education Quality and Accountability Office, 2015a). These provincial language statistics have remained consistent for more than a decade and should not be surprising given that 40% of immigrants to Canada, speaking over 100 languages, choose to settle in Ontario (Government of Ontario, 2013). Research has shown that due to the multilingual nature of many communities across Ontario, opportunity for the successful acquisition of literacy skills in L2 is diminished for a significant portion of ELL students (Gomez Palacio, 2010; Kim & Jang, 2009; Leung & Lewkowicz, 2006; Nassaji, 2007; Solorzano, 2008). ELL students entering the Ontario schools, at any grade level, are assessed for L2 fluency in order to identify appropriate language development supports to educational curriculum.

In Ontario secondary schools, ELL students complete an initial review of their level of English literacy through the Steps to English Proficiency (STEPs) framework and are placed into an appropriate level of ESL programming (Ministry of Education, 2011). For ELL students who are not reading in L2 at the level of their non-ELL peers, focused educational supports include ESL courses for credit that count towards earning an OSSD. These courses help ELL students to refine independent reading skills and develop L2 literacy skills of critical importance in order to demonstrate competent achievement in English literacy considered to be on par with that of their non-ELL peers. ESL course programming varies from the most basic building of English literacy skills (ESL-A) to a level wherein ELL students can be considered to have the proficiency necessary to become eligible for the OSSLT (ESL-E; See Appendix A).

**Ontario ESL secondary school programming.** ELL students develop their language competencies with L2 reading and writing skills through exposure to and development of English literacy skills. This progression in the development of L2 literacy skills begins with ESL-A and continues through to the completion of ESL-E curriculum. Following the completion of ESL-E, ELL students can then be placed into an English compulsory credit course. Based on the exit curriculum expectations of the compulsory Grade 9 English course, successful demonstration of English literacy skills on the OSSLT is considered to be a minimum equivalent to that of provincial standard (Level 3<sup>1</sup>) achievement (Ministry of Education, 2010). Instruction for ELL students in L2 is supported by opportunities to practice reading and writing skills within the classroom in addition to ESL supports. These in-class instructional opportunities collectively work to build the reading comprehension skills for all students. Since these supports are generally at the Grade 9 level of competency, their effectiveness with both ELL and non-ELL students on an individual basis varies based on required student needs. It is reasonable to assume that these integrated classroom supports will most likely not be sufficient to support the needs of those ELL students who are not reading and writing in English at the Grade 9 level.

**Standardized testing and the provincial cohort.** In Ontario, secondary school students who write the OSSLT are categorized as being either First Time Eligible (FTE) or Previously Eligible (PE). The FTE student cohort for any one writing year is identified by EQAO as

---

<sup>1</sup>Four levels of achievement comprise the assessment and evaluation standards in Ontario. “Level 1 represents achievement that falls much below the provincial standard. The student demonstrates the specified knowledge and skills with limited effectiveness. Students must work at significantly improving learning in specific areas, as necessary, if they are to be successful in the next grade/course. Level 2 represents achievement that approaches the provincial standard. The student demonstrates the specified knowledge and skills with some effectiveness. Students performing at this level need to work on identified learning gaps to ensure future success. Level 3 represents the provincial standard for achievement. The student demonstrates the specified knowledge and skills with considerable effectiveness. Parents of students achieving at Level 3 can be confident that their children will be prepared to work in subsequent grades/courses. Level 4 identifies achievement that surpasses the provincial standard. The student demonstrates the specified knowledge and skills with a high degree of effectiveness. However, achievement at Level 4 does not mean that the student has achieved expectations beyond those specified for the grade/course.” (Ministry of Education, 2010, p. 18.)

students being in Grade 10 (by year of birth), usually turning 16 years old, and having completed their Grade 9 core compulsory subjects (specifically, English at a minimum). Students who are older than 16 years, have been deferred once, or have written the OSSLT on a previous attempt and were unsuccessful are considered PE and are typically in their Grade 11 year of secondary school (see Table 1).

Table 1

*Typical Secondary School Credit Achievement Totals for OSSLT Eligibility*

	FTE	PE
Credits	12	20
Grade	10	11
Age	≤16	≥17

On average, it takes a minimum of five years for ELL students to demonstrate L2 language proficiency equal to that of their English speaking peers (Graves et al., 2011; Solorzano, 2008; Zheng et al., 2007) thereby suggesting a language skills gap from the very outset of their education in Ontario (Cheng, 2012; Gomez Palacio, 2010). As a result of not being ready to attempt the OSSLT with their provincial non-ELL peers due to the delayed L2 skills development, ELL students typically comprise the largest group within deferred FTE participants (Cheng, Fox, et al., 2007; Doe, Cheng, Fox, Klinger, & Zheng, 2011; Zheng et al., 2007). Since the implementation of the OSSLT in 2002, and as a result of ELL underachievement on standardized tests of language proficiency, this timely issue in literacy education has increasingly become the focus of educational research (Gomez Palacio, 2010; Hardy, 2013; Hinton, Rogers, & Kozlow, 2010; Kim & Jang, 2009; Solorzano, 2008).



## Chapter 2 Literature Review

This section will explore educational research to develop a rationale for using the construction-integration model of reading comprehension by explaining its relationship to social-cognitive constructivist theory. Utilizing this framework, the creation of the balanced strategy literacy program will be reviewed as a way to improve ELL L2 literacy skills more effectively than the current ESL instructional programming in Ontario. A brief summary of the need for high quality L1 and L2 instructional delivery and educator training will also be addressed. Finally, an explanation of the research question and associated hypotheses are explained.

### Reading Comprehension Theory

**ELL L2 reading comprehension skills gap.** The L2 skills gap experienced by ELL students within their first five years of schooling in Ontario (Cheng, 2012; Graves et al., 2011; Solorzano, 2008; Zheng et al., 2007) indicates struggles with the cognitive development of L2 reading comprehension skills over time. From the formation of the initial most basic concrete skills into the more formal and complex fluid skills that form the core components of L2 literacy, these reading comprehension skills are required for the successful demonstration of the literacy diploma requirement (Gomez Palacio, 2010; Zheng, Klinger, Cheng, Fox, & Doe, 2011). This demonstration of L2 reading comprehension skills necessitates, in part, the ability of an ELL student to discern explicitly and implicitly stated ideas and information from reading selections and the ability to make connections between information and ideas in a reading selection and personal knowledge and experience (Education Quality and Accountability Office, 2011e, 2013). Development of the skill to understand the **explicit** ideas within a reading selection requires ELL students to fundamentally understand the meaning of the written words and to then demonstrate this understanding by accurately identifying the main idea of the reading selection.

Demonstration of **implicitly** stated ideas expands this explicit understanding to a higher reading skill level whereby the ELL student must make inferences regarding possible extensions of meaning from what has been comprehended in the reading selection. The ELL student must then relate this comprehension of the explicit and implicit understandings of the reading selection to personal experience. This not only requires the ELL student to comprehend various levels of the message being communicated but in addition to relate this comprehension to their prior knowledge.

Based on this prior knowledge and experience, each ELL student can be thought of as a unique mosaic of reading comprehension skills that have been developed in their L1 and refined for application to reading comprehensively in their L2. For an ELL student who is actively acquiring L2 reading skills, the ability to successfully demonstrate reading comprehension skills is directly dependent on the extent to which these skills were developed in their L1 (Solorzano, 2008). The formation of this comprehensive understanding by the ELL student can be explained by social-cognitive constructivism theory (Schunk, 2012).

**Social-cognitive constructivism theory.** Social-cognitive constructivism theory evolved out of twentieth century education research conducted in the field by pioneers such as Vygotsky, Piaget, and Rosenblatt (Schunk, 2012). Vygotsky's extensive research included the social influences of reasoning on skills acquisition and competency in relation to the zone of proximal development (Schunk, 2012; Vygotsky, 1978). The act of learning is thought to become more efficient when new concepts are connected to previously-learned concepts within what is known as a zone of learning. Zones of learning can be thought of as both continuous and unlimited. By deliberately arranging for instruction that bridges learning from one proximal zone to another, learning can be maximized. Influenced by the work of Vygotsky, Piaget concentrated on the pure

constructivist stages of learning through experience (Piaget, 1952; Schunk, 2012), while Rosenblatt (1978) contended that the construction of meaning from knowledge and skills was shaped by individualized transactional experiences that are culture-specific to each learner. The idea that past experiences and prior skills acquisition can have a profound impact on an individual's ability for continued learning via the creation of organized schemas was further explored in the latter half of the twentieth century and the early twenty first century by a number educational researchers (e.g., Graves et al., 2011; Kintsch, 1988; Kintsch, Patel, & Anders Ericsson, 1999; McElvain, 2010; McNamara & Kintsch, 1996; Schunk, 2012; Wurr, 2003). The presence of schemas helps the reader construct meaning and therefore acknowledges the value of previously stored information on the ability to construct meaning from new information, forming the core assumption of cognitive theory (Kintsch, 1998; Schunk, 2012). This extension of cognitive theory that acknowledges the building of meaning from isolated words by combining them with the holistic inclusion of prior knowledge and experience opened the door for Kintsch's (1988) research with the creation of a reading comprehension model that theoretically accounted for just such an individualized and complex nature of cognition. Cognition and comprehension can be thought of as the complex integration of meaning constructed from the situational connection between various parts of a text (Kintsch, 1988; McNamara & Kintsch, 1996).

**The construction-integration model.** In this model, cognition can be described as a mental process that combines perception and knowledge of information resulting in the formation of a mental construct that can produce an associated action that demonstrates understanding (Kintsch, 1998). Understanding is brought about through the activation of many associated neural networks that the reader identifies as being related to the information being processed, without regard for whether these networks will result in comprehension.

Comprehension is generated through a process that Kintsch (1998) refers to as “constraint satisfaction” (p. 3) which works to include only those neural networks that contain information that directly or indirectly build meaning from the context of the information under review. Once the information has been reviewed and linked to associated neural networks through the processes of perception and understanding, Kintsch argues that the result is a situational model of comprehension that can be considered an understanding that is as unique as the varied experiences of the individual. This situational model of comprehension relies on the initial understanding of ideas from the text, without regard for correct connections to the specific situation. As more information is gathered and understanding continues to grow, this contextualized understanding develops into a more comprehensive understanding.

Comprehension, therefore, is reliant on individualized experiences within a variety of contexts. If the individual in any situation experiences problems with reaching a comprehensive understanding, the individual will resort to problem solving strategies that help to build a connection across apparent gaps in neural networks. In this model of cognition, Kintsch argues that comprehension is literally constructed foundationally from the smallest and weakest chaotic connections towards a larger and stronger context-sensitive organized relationship that demonstrates coherence of understanding manifested in conscious thought. Once this level of comprehension is reached, the newly acquired mental representation of understanding becomes integrated with existing neural networks of knowledge and thus strengthened through reinforcement while lesser connections are deactivated. This reinforcement of comprehension can fundamentally be applied to describe thinking processes for any student, regardless of their L1.

**The construction-integration model and ELL implications.** In the construction-integration model of cognition there is an assumption that the thought pattern of comprehension occurs in the same language in which the understanding is produced. That is, the language in which an individual demonstrates understanding is the language in which the individual has done the thinking (Kintsch, 1988). Similarly, in order to think through the explicit and implicit meaning of text and connect personal experience to text vocabulary, students must have a working knowledge of text vocabulary in the language in which it was written (McNamara & Kintsch, 1996; Nassaji, 2007). From there, further connections can be made either in the language of the text or the translation of meaning in the first language through the associated neural networks (Chau, Wu, Chen, & Lughmani, 2012; Li & Zhang, 2004; Nassaji, 2007; Schunk, 2012; Solorzano, 2008; Taguchi, 2007; Yu, 2008). For ELL students, this process has been practiced in their L1 to varying degrees and must now be practiced in their L2 in order to strengthen the neural network associations needed for achievement demonstration on standardized assessments required for graduation (Cheng, Fox, et al., 2007; Hayes, Rueda, & Chilton, 2009; Kim & Jang, 2009; Short, Echevarria, & Richards-Tutor, 2011). The level of proficiency in reading comprehension required for the successful demonstration of L2 literacy, therefore, takes longer to develop in ELL students than in students whose L1 is English (Cheng, Klinger, & Zheng, 2007; Kim & Jang, 2009; Toohey, 2007; Zheng et al., 2007).

For those FTE ELL students who choose to attempt the literacy test when they first become eligible, a long-standing provincial trend from 2002 to 2015 indicates only one in two will be successful (Education Quality and Accountability Office, 2015a; Hinton et al., 2010). Within a multicultural urban setting, FTE ELL and PE ELL students have demonstrated an achievement difference as great as 23% below that of their provincial non-ELL peers in language

proficiency on the OSSLT (Education Quality and Accountability Office, 2012e). For ELL students whose prior knowledge and L1 literacy skills are weak to begin with, the ability to demonstrate literacy in their L2 by an age-defined testing structure becomes insurmountable (Cheng, 2012; Education Quality and Accountability Office, 2012d; Hayes et al., 2009; Hinton et al., 2010).

ELL L1 literacy skills individually vary in competency based on a number of factors that have contributed to the proficiency level of their overall literacy skills. The more competent the demonstration of L1 literacy skills the more likely the ELL student was able to attend uninterrupted schooling, from their country of origin through to enrolment in Ontario. In some of these cases, L1 literacy development could have had a structured approach in formal schools with standardized curriculum prior to the continuation of schooling in Ontario. However, for some ELL students, the enrolment in schooling in Ontario occurred after a significant gap in learning due to the necessary disruptions brought about by travel restrictions and immigration policies. For others, their schooling may have been intermittent due to extensive movement within their country of origin or perhaps for other reasons like poverty or discrimination. Yet even for others, formalized schooling prior to immigration may not have been possible either due to lack of centralized government services, or for political reasons (e.g., war or oppression).

The transferred development of literacy skills from L1 to L2 is therefore as individualized as the journeys that brought these students to Ontario, with some students being ready to engage in language development similar to that of their non-ELL peers, while others require a more intensive support structure to help them acquire functional literacy. These individual variances in skills competencies underscore the need to invest in the necessary time, estimated to be between five to seven years (Graves et al., 2011; Solorzano, 2008; Zheng et al.,

2007), in order to enable ELL achievement for English language reading and writing skills to become equivalent to that of their non-ELL peers (Hardy, 2013; Kim & Jang, 2009; Toohey, 2007; Zheng et al., 2007). If ELL students arrive to Canada between Grades 2 and 4, it would be a reasonable supposition that their literacy skills would develop to become on par with those of their non-ELL peers by the time they demonstrate the literacy graduation component. However, this is not the reality for many ELL students who arrive to Canada in Grade 9 or 10 and do not have the luxury of time to build their L2 literacy skills equivalent to that of their English speaking peers.

### **Application of Theory to the Development of ELL L2 Literacy**

**Improving ELL literacy with extended practice.** Since the development of L2 reading comprehension takes longer in ELL students, providing a program outside of class time became a natural next step in providing for their L2 literacy skills development. Instruction that explores various reading text formats that vary in skill level and content can have dramatic effects on improving ELL reading comprehension in their L2, especially when offered at a reading level slightly higher than their current ability but connected to their prior learning (Booth Olson, Land, Anselmi, & AuBuchon, 2010; Chen, 2012; Eshiet, 2012; Santau, Maerten-Rivera, & Huggins, 2011; Vygotsky, 1978). ELL students have the opportunity to practice encoding and recall skills while gaining reading confidence with new material which is of interest to them by exploring reading texts that activate prior knowledge, celebrate cultural linkages and are slightly more sophisticated than their current level of ability (Booth Olson et al., 2010; Chau et al., 2012; Chen, 2012; Davis Lenski, Ehlers-Zavala, Daniel, & Sun-Irminger, 2006; Hayes et al., 2009; McElvain, 2010; Nelson, 2005). The improvement of ELL L2 reading achievement through repeated exposure to various types of reading text, in tandem with the explicit teaching and

modeling of tiered reading strategies has been shown to have beneficial effects on L2 development with ELL students by increasing confidence while lowering anxiety levels as skills are acquired (Booth Olson et al., 2010; Nelson, 2005; Peyman & Sadighi, 2011; Roessingh & Johnson, 2004; Shin, 2010).

**Improving ELL literacy with linguistic contextual cuing.** Lower achievement levels for ELL students on L2 standardized testing assessments are thought to be a function of their cultural identity and unique language background (Cheng, Fox, et al., 2007; Craig, Thompson, Washington, & Potter, 2004; Davis Lenski et al., 2006; Hayes et al., 2009; Mays, 2008; McElvain, 2010; Zheng et al., 2011). ELL students represent a varied mosaic of dynamic cultural, linguistic and ethnic heritage which impact the contextual cuing of language meaning in their L2 (Birjandi & Tamjid, 2012; Brown, 2010; Chau et al., 2012; Fender, 2008; Li & Zhang, 2004; Nassaji, 2007; Toohey, 2007; Yu, 2008). For example, the culture to which an ELL student is accustomed may not emphasize the explicit nature of language found within Ontario educational curriculum and may instead favour language metaphors or other literacy skills common to foreign cultures (Mays, 2008; Nelson, 2005; Rajabi, 2009; Toohey, 2007). These linguistic differences impact ELL ability to develop effective L2 reading skills along with the ongoing acquisition of content knowledge (Craig et al., 2004; Davis Lenski et al., 2006; Mays, 2008; McElvain, 2010). This ongoing acquisition of knowledge is an actively social and constructive process that integrates meanings from what is read in order to metacognitively comprehend the written text as a whole (Graves et al., 2011). The development of higher level reading skills, such as processing and inferencing, hinge upon word recognition and spelling abilities as a means to extend L2 comprehension (Dixon & Bortolussi, 2013; Fender, 2008; Kintsch et al., 1999; McElvain, 2010; McNamara & Kintsch, 1996; Nassaji, 2007). It is the



proficiency of the L2 reading skills which remains the foundational key to L2 literacy (Chen, 2012), even though the demonstration of both reading and writing skills are necessary for successful completion of the literacy diploma requirement.

**ELL literacy and linguistic sophistication.** Of the reading skills that form the basic foundation of L2 literacy, the most demanding is the demonstration of indirect understanding because it presupposes that the student has experienced higher learning strategies of syntax (Cheng, Klinger, et al., 2007; Dixon & Bortolussi, 2013; Zheng et al., 2011). ELL students often have difficulty formulating competent responses in their L2 due to the succinct structural nature of and lack of explicitness within question formatting (Cheng, Fox, et al., 2007), especially when coupled with the navigation of test questions that demand highly developed L2 linguistic capabilities in order to decipher tasks (e.g., multiple choice formats). Multiple choice responses rely on the formulation of sophisticated L2 reading comprehension skills that interpret both explicit and implicit questions through recognition of vocabulary, decoding of text and recognizing content as a function of prior knowledge (Booth Olson et al., 2010; Brown, 2010; Kintsch et al., 1999; Nassaji, 2007; Rajabi, 2009; Roessingh & Johnson, 2004; Taguchi, 2007). In order to select the correct multiple choice response, ELL students must employ several reading skills competencies simultaneously including: linguistically (by understanding meanings and phrases), socio-linguistically (by understanding the subtleties of language and culture with the tone and style of the writing) and through discourse (by understanding opinions and alternative views of the reading passages) (Chau et al., 2012; Kintsch et al., 1999; McElvain, 2010; Pu, 2010; Roessingh & Johnson, 2004).

Several factors including student prior knowledge, cultural experiences and L1 linguistic development merge to provide a point of reference from which ELL students can understand the

contextual cuing within L2 testing texts and questions (Booth Olson et al., 2010; McElvain, 2010; Rajabi, 2009; Roessingh & Johnson, 2004; Taguchi, 2007). This transactional nature of reading supports the transition from a literal understanding of text to that of a constructed mental model that speaks to the personalized cultural and linguistic experience of the ELL student and emphasizes the intricacies and nuances of decoding text in order to comprehend and express inferred meanings in light of this varied experience (Graves et al., 2011; McElvain, 2010; Rajabi, 2009; Rosenblatt, 1978). These sophisticated L2 linguistic demands in tandem with the development of explicit rather than implicit L2 comprehension skills lead to lower achievement levels of ELL students on L2 literacy test questions than their non-ELL peers (Cheng, Fox, et al., 2007; Liu, Parker, & Lara, 2001; Nassaji, 2007; Zheng et al., 2011). To maximize comprehension, the construction-integration process of reading an L2 text by an ELL student requires a significant investment of time to decode, construct and integrate contextual meaning, including the re-reading of passages prior to being able to answer questions that require implicit understanding of the content in their L2 (Graves et al., 2011; Kim & Jang, 2009; Shin, 2010; Toohey, 2007; Zheng et al., 2007).

**ELL literacy and vocabulary development.** In order for an ELL student to demonstrate an implicit understanding of L2 text content, it is important to develop their L2 vocabulary through deliberate and repeated instruction utilizing a variety of text formats in order to unlock the contextual meaning of words through direct modeling (Chau et al., 2012; Klinger, Rogers, Anderson, Poth, & Calman, 2006; Liyanage & Bartlett, 2012; Roessingh & Johnson, 2004; Shen, 2013; Shin, 2010). Word recognition and spelling has been found to be a predictor of L2 reading comprehension levels in ELL students (Fender, 2008; Yu, 2008). Nurturing a social learner-centered environment in which L2 dialogue can occur between the ELL student and the teacher

and between the student and their peers, the teacher can implement instructional reading strategies and skills in a scaffolded approach to help students decode and decipher the meaning of unfamiliar words (Anton, 1999; Booth Olson et al., 2010; Fender, 2008; Roessingh & Johnson, 2004; Shen, 2013; Shin, 2010). Reading strategies that draw out the recognition of and meaning of words within narrative text, while utilizing social dialogue, permits ELL students to develop greater L2 comprehension that reaches past a purely linguistic meaning into the recognition of rhetorical patterns (Chau et al., 2012; Cheng, Klinger, et al., 2007; Fender, 2008; Li, 2012; Liyanage & Bartlett, 2012; McElvain, 2010). Interactive reading strategies such as reading aloud, re-reading aloud, whole group discussion of meaning and free-writing, engage the ELL student in the building of both L2 reading comprehension and confidence by improving processing speeds (Chau et al., 2012; Fender, 2008; Shen, 2013; Shin, 2010).

**Improving ELL literacy with instructional scaffolding of reading skills.** For ELL students, the development of L2 language proficiency is best achieved through a structured investment in the building of reading skills to support the comprehensive acquisition of English language basics within the context of a socially supportive learning environment (Chau et al., 2012; Davis Lenski et al., 2006; Gomez Palacio, 2010; Shen, 2013; Shin, 2010). By providing explicit opportunities for ELL students to take the initiative to further explore numerous interactive reading strategies, an enhanced learning environment tailored to individually scaffolded learning needs can be created (Birjandi & Tamjid, 2012; Li, 2012; Nelson, 2005; Ortega, Luft, & Wong, 2013; Roessingh & Johnson, 2004; Shin, 2010). The expression of various reading strategies through the use of internet, social media and computers permits confident L2 language exploration and development of meaning through multiple contexts conducive to a multicultural learning environment (Chau et al., 2012; Klinger et al., 2006;

McElvain, 2010). Additionally, the creation and sustaining of quality programming for ELL students, with a focus on the development of interactive reading skills and strategies over a longer period of time, supports greater L2 reading comprehension with and heightened interest in various forms of reading texts (Chau et al., 2012; Cheng, Klinger, et al., 2007; Davis Lenski et al., 2006; Graves et al., 2011; Hayes et al., 2009; Kim & Jang, 2009; Shin, 2010; Taguchi, 2007; Toohey, 2007). Metacognition can be further improved by building into lessons instructional opportunities for learners to self-assess their L2 reading skill development through multi-tiered sequential reading activities and the use of graphic organizers (Birjandi & Tamjid, 2012; Chau et al., 2012; Santau et al., 2011; Shin, 2010; Short et al., 2011). Taken together, this research indicates the importance of utilizing a variety of interactive scaffolded literacy instructional strategies in tandem with twenty-first century technology so as to effectively improve ELL L2 reading and writing skills at a level equivalent to that of their non-ELL peers.

**L2 literacy instruction in Ontario classrooms.** The Ontario Ministry of Education provides a number of key resources to ensure the standardization of curriculum delivery for ELL students (e.g., *Steps to English Proficiency: A Guide for Users* (Ministry of Education, 2011), *The Ontario Curriculum Grades 9 to 12: English as a Second Language and English Literacy Development* (Ministry of Education, 2007b), *English Language Learners: ESL and ELD Programs and Services: Policies and Procedures for Ontario Elementary and Secondary Schools* (Ministry of Education, 2007a), and *Growing Success: Assessment, Evaluation, and Reporting in Ontario Schools* (Ministry of Education, 2010)). By ensuring ESL qualified instructors implement these curriculum documents that emphasize balanced strategy approaches ELL students have a consistent opportunity throughout the province to develop their L2 literacy skills during the course of a typical school day. ESL classes run concurrent to secondary school

programming in order to support L2 skills acquisition across the content areas. ELL students progress through the ESL programming levels into fully immersed L2 learning. It is through this daily exposure to curriculum from across the content areas that ELL students become prepared to demonstrate the graduation literacy requirement.

**Limitations of L2-only instruction.** L2-only literacy instruction of ESL programming in Ontario fails to integrate L1 linguistic cuing of prior knowledge that was learned in the first language of an ELL student. By focusing purely on L2 instruction of literacy skills (by leaving it up to students of similar linguistic backgrounds to engage in L1 peer dialogue, L1 writing and L1 electronic web research) there is a lost explicit instructional opportunity for educators to help ELL students make connections to deeper literary meanings in foreign languages. As L2 linguistic skills are developed through L2-only instruction, opportunities to effectively integrate pre-established L1 literary connections through L1-specific and planned discussion are lost. The explicit understanding of reading selections cannot be extended effectively to the development of implicit understanding when instruction does not integrate linguistic and socio-linguistic applications from previously learned languages. L2-only instruction fails to provide this opportunity for ELL students to construct mental models of language that extend literal understandings of concepts into the expression of true comprehension of sophisticated meaning and application to the personal experience of the student. Although L2-only instruction that emphasizes interactive reading strategies can over time build more complex reading skills, it has not provided a reasonable approach to ELL literacy instruction since the literacy achievement gap continues to remain significant.

**Integrating instructional methods.** It is agreed that no one single method of teaching reading skills and strategies will work for all ELL students and that a more integrated approach

to building literacy is favored (Chau et al., 2012; Kim & Jang, 2009; Klinger et al., 2006; Murphy, 2009; Roessingh & Johnson, 2004; Shen, 2013). By providing a balance to the various reading strategies and skills instructed in both L1 and L2 over time and acquiring an increased familiarity with the informational, narrative and graphic text types rooted in cultural familiarity, ELL students will be exposed to skill development in an individualized format that will help them acquire overall L2 language proficiency (Cheng, Klinger, et al., 2007). The deliberate scaffolding of L1 reading strategies and skills that progress through a continuum from guided reading into shared reading, that also include both collaborative and independent aspects tailored to individualized student cultural and linguistic needs, can dramatically support ELL L2 literacy development (Booth Olson et al., 2010; Li, 2012; Murphy, 2009; Ortega et al., 2013; Rajabi, 2009; Roessingh & Johnson, 2004; Santau et al., 2011; Shin, 2010).

In order to support the development of L2 literacy skills by ELL students, Cheng, Klinger and Zheng (2007) recommended working with reading skills and strategies or reading text types (e.g., information, narrative or graphic passages) to effect overall improvement in ELL achievement on L2 standardized testing. Cheng, Klinger, et al. further specified that in order for ELL students to be successful on the OSSLT they may require a cultural and contextual focus during skills development in conjunction with L2 vocabulary development. This deliberate and mechanical instructional approach with building comprehension from text forms in both L1 and L2 is different from the recommendations made by EQAO. The OSSLT is designed to reflect student development of literacy skills through the continuum of provincial curriculum up until the end of Grade 9. For students who have been immersed in Ontario curriculum, the need to utilize the text forms as an explicit mode of instruction is not necessary since these text forms would have been integrated into continuous learning experiences across the grade levels.

However, for students who are new to the literary culture of Ontario, the need to explicitly instruct the nuances of reading text forms would become an integral part of L2 skills acquisition. This knowledge of the intricacies of L2 literacy development necessitates effective L1 instructional programming.

**High quality ELL literacy instructional programming and assessment.** Foundational to successful implementation of a balanced strategy literacy approach to building L2 proficiency with ELL students is teacher education and training that develops L1 and L2 instructional skills necessary to navigate the successful implementation and assessment of literacy programming (Chau et al., 2012; Gomez Palacio, 2010; Leung & Lewkowicz, 2006; Li, 2012; Li & Zhang, 2004; Murphy, 2009; Ortega et al., 2013). The teacher in this balanced model acts as a guide to facilitate high quality social interactions and programming that evoke critical thinking in order to co-construct a shared understanding that fills in learner gaps with L1 and L2 textual meaning (Chau et al., 2012; Cheng, Klinger, et al., 2007; Li, 2012; Ortega et al., 2013; Santau et al., 2011). High quality programming that includes the development of L2 vocabulary through repeated exposure to a variety of text forms with the extension of meaning to L1 will help ELL students decode the contextual meaning of words with confidence (Chau et al., 2012; Cheng, Klinger, et al., 2007; Kim & Jang, 2009; Klinger et al., 2006; Roessingh & Johnson, 2004; Short et al., 2011). The foundation for ELL successful achievement of L2 reading skills as part of the literacy diploma requirement is facilitated by broadening their exposure to explicit and implicit reading skills and by extending their understanding to their personal knowledge and experience (Li, 2012). Effectual programming for ELL students that is both tangible and accessible, as a direct function of a variety of L1 and L2 reading strategies and skills will necessarily support a more integrated and holistic form of L2 reading comprehension (Li & Zhang, 2004; Ortega et al.,

2013). The key to improving ELL L2 reading skills is to heighten student engagement in text forms by utilizing an interactive instructional program comprised of a variety of reading strategies that can be explored autonomously, in partners and in whole group discussions (Chau et al., 2012; Shen, 2013; Shin, 2010). The effective use of technology to explore and express student voice within multiple contexts and languages has also been shown to support ELL L2 language proficiency within a multicultural environment (Chau et al., 2012). Interwoven throughout instructional programming, student self-assessment is beneficial to the development of meta-cognition with L2 literacy skills acquisition (Birjandi & Tamjid, 2012). Additionally, the intentional allocation of designated blocks of time to engage ELL students in L2 literacy skills acquisition has shown to be integral to successful achievement on standardized testing (Education Quality and Accountability Office, 2010e).

To compensate for ELL students having to take a longer time to read and think during skills demonstrations for L2 literacy diploma requirements, they have been granted the provision of extra time in an effort to level the playing field with their English speaking counterparts (Chau et al., 2012; Doe et al., 2011; Shin, 2010; Walczyk, 2000). In some cases, ELL students do quite well with extra time accommodations and in other cases they do not for a variety of cultural reasons, including being unfamiliar with text types and L2 contextual meanings (Kim & Jang, 2009; Walczyk, 2000). It has been suggested that those ELL students who improved their L2 literacy achievement through extra time accommodations employed previously-developed reading strategies while those students whose achievement was not improved with additional time did not benefit because their reading skills were not developed to the point at which they could be of value on such a sophisticated standardized test of L2 literacy (Kim & Jang, 2009; Walczyk, 2000). This suggests that the allocation of additional time must be considered *in*



*tandem* with other individualized skills and strategies that support the transfer of ideas in order to improve ELL performance on L2 standardized tests (Birjandi & Tamjid, 2012; Graves et al., 2011; Hayes et al., 2009; Kim & Jang, 2009; Willner, Rivera, & Acosta, 2009). Specifically, the simple addition of extra time allocated for test completion in and of itself is not adequate without having first developed ELL L2 language skills through a specialized intervention program that lays the foundation from which ELL students can build upon their L1 skills in order to exhibit L2 language proficiency (Chau et al., 2012; Cheng, Fox, et al., 2007; Hayes et al., 2009; Kim & Jang, 2009; Shin, 2010).

**Balanced strategy literacy instruction with ELL students.** Strategies to holistically improve student achievement with L2 literacy have been published by EQAO (2010c), including the provision for blocks of instructional time dedicated to scaffolded skills acquisition within a balanced strategy instructional program that builds literacy. Balanced strategy is an instructional approach to literacy skills development that includes a blend of “shared reading, guided reading, read-aloud sessions, independent reading, modeled reading, collaborative small-group learning, oral language development and word walls” (Education Quality and Accountability Office, 2010e, p. 4). Balanced strategy literacy instruction is tailored to student zones of proximal development (Booth Olson et al., 2010; Chen, 2012; Eshiet, 2012; Li & Zhang, 2004; Santau et al., 2011; Vygotsky, 1978) to support acquisition of and competency with reading skills in a collaborative setting. Utilizing this strategy of instruction during this research study will provide a learning structure within which ELL students will be able to acquire a refinement of L2 literacy skills in a continuum of scaffolded learning from their current level to the development of proficiency (Level 3).

**The importance of L1- and L2- instructional training with literacy curriculum.** It is cautioned that the implementation of instructional practices that aim to improve literacy will only be effective if the educator has had appropriate ESL training (Booth Olson et al., 2010; Chau et al., 2012; Li, 2012; Li & Zhang, 2004; Ortega et al., 2013) or is working with a qualified provincially certified ESL teacher (Gomez Palacio, 2010; Leung & Lewkowicz, 2006; Li & Zhang, 2004; Murphy, 2009). ESL students will not develop the intended L2 language proficiency if the educator does not have specialized knowledge about the fundamental linguistic composition of the student's L1 literacy, the skills to develop instruction according to the stages of language development, and the expertise to scaffold the instruction of language just beyond the current level of acquisition to promote continuous growth (Birjandi & Tamjid, 2012; Booth Olson et al., 2010; Li, 2012; Nelson, 2005). Additionally, educators need to embed language acquisition holistically into provincial curriculum content via an assortment of strategies and resources with opportunities for multiple integrated entry-points through daily lessons and specialized programs designed to meet a variety of reading and writing skill levels.

Since it has been previously shown that L2 literacy development within the monolingual Ontario ESL model of learning has resulted in lesser achievement by ELL students than their non-ELL peers, this research study, led by qualified Ontario teachers, will explore the effect of an accessible, integrated, interactive, after school balanced strategy literacy program on ELL achievement of L2 reading skills.

### **Research Question and Hypotheses**

Since student preparation for the completion of the literacy diploma requirement happens through a variety of strategies and settings, it is difficult for educators to know what techniques in what settings were successful in consistently supporting student development of overall

literacy. The purpose of this study is to collaboratively engage ELL students in a variety of oral and written activities that build their literacy skills in English reading. More specifically, it is the focus of this research to engage both FTE and PE ELL learners in a balanced strategy literacy program to determine the effects of this instructional program on their overall achievement of L2 literacy diploma requirements as measured by the 2014 OSSLT in reading skills such as understanding explicitly stated information and ideas (R1), understanding implicitly stated information and ideas (R2), and making connections between information and ideas in a reading selection and personal knowledge and experience (R3). The focus of this research will examine the effect of balanced strategy literacy instruction on ELL achievement of L2 reading comprehension skills as measured on the 2014 OSSLT, using a variety of different assessment and comparison techniques.

The first hypothesis engages in the dichotomy between the delayed or unsuccessful demonstrations of ELL literacy diploma requirements even though ELL students are exposed to balanced strategy instruction skills development (Booth Olson et al., 2010; Chau et al., 2012; Chen, 2012; Eshiet, 2012; Kim & Jang, 2009; Klinger et al., 2006; Li & Zhang, 2004; Santau et al., 2011; Vygotsky, 1978). By engaging in an extension of literacy skills development outside the classroom, it may become possible for ELL student demonstrations of literacy to become stronger and could potentially lead to successful completion of the literacy graduation requirement. Therefore, it is predicted that higher levels of program attendance will be associated with higher scores on R1, R2 and R3 achievement, assuming there is no minimum/maximum threshold with reading skills development, as measured by the 2014 OSSLT (H<sub>1</sub>).

Research has also suggested that ELL students benefit in understanding explicitly stated information and ideas through literacy instructional development (Cheng, 2012; Cheng, Klinger,

et al., 2007; Education Quality and Accountability Office, 2010e; Wurr, 2003). It is therefore predicted that ELL students who receive balanced strategy literacy instruction in both L1 and L2 will have higher R1 achievement scores in comparison to students who receive balanced strategy literacy instruction in L2 only, as measured by the 2014 OSSLT (H<sub>2</sub>).

Notably, it is also predicted that participation in the program will have no discernable effect on R2 skills. There is evidence within the research that has suggested the understanding of implicitly stated information and ideas is difficult for ELL learners and requires a longer infusion of skills development over time (five to seven years; Cheng, Klinger, et al., 2007; Kim & Jang, 2009) than this program will provide in eight hours of explicit instruction coupled with 10 hours of independent homework. Therefore, it is predicted that balanced strategy literacy instruction will have no effect on R2 achievement from pre-intervention to post-intervention, as measured by the 2014 OSSLT (H<sub>3</sub>).

Finally, research has noted that balanced strategy literacy instruction helps ELL students with making connections between information and ideas in a reading selection and personal knowledge and experience (Booth Olson et al., 2010; Chau et al., 2012; Li, 2012; McNamara & Kintsch, 1996; Rajabi, 2009; Shin, 2010). Therefore, it is predicted that ELL students who receive balanced strategy literacy instruction in both L1 and L2 will have higher R3 achievement scores in comparison to students who receive balance literacy instruction in L2 only, as measured by the 2014 OSSLT (H<sub>4</sub>).

### Chapter 3 Methodology

#### Participants

**Sampling techniques.** A quasi-experimental quantitative design (Shadish, Cook, & Campbell, 2002) was chosen for this research study as a way for educational professionals to conduct research in the field resulting in minimal disruption to the secondary school environment. In this quasi-experimental quantitative research study, ELL students were invited to participate from a known population of students and once they agreed, were randomized to treatment and sub-treatment groups. This investigator examined the impact of a targeted reading intervention program using this convenience sample of ELL students ( $N = 20$ ; 70% male, 30% female; randomized to treatment  $n = 10$  or sub-treatment group  $n = 10$ ) to ascertain the effectiveness of balanced strategy instruction on L2 reading literacy achievement. Both treatment and sub-treatment groups were randomized from pre-formed strata (Levels I ( $n = 2$ ), R ( $n = 4$ ), 1-2 ( $n = 8$ ) and 3-4 ( $n = 6$ )<sup>2</sup>) based on their overall achievement level of reading skills on the April 2010 OSSLT pretest (See Appendix B). The students in this study sample were enrolled in full time studies at an urban Ontario secondary school and came from many international cultural backgrounds (See Table 2).

---

<sup>2</sup> In addition to the four levels of achievement (Levels 1, 2, 3 and 4; See Footnote 1, p.16) that comprise the assessment and evaluation standards in Ontario, there are provisions made for the evaluation of student achievement that do not meet Level 1 minimum performance criteria. The use of the letter "I" may be used "to indicate that insufficient evidence is available to determine a letter grade or percentage mark", (Ministry of Education, 2010, p. 42). Generally a Level I means that the student has left the test or assignment blank with no response. The use of the letter "R" may be used to indicate that "additional learning is required before the student begins to achieve success in meeting the subject/grade or course expectations", (Ministry of Education, 2010, p. 41). Generally a Level R means that the student has responded to the task but has not demonstrated the minimum achievement expectations of Level 1.

Table 2

*Research Study Participant Demographics*

Treatment Condition	Participant Number	Status in Canada	L1	Time in Ontario (years)
Treatment	1	Canadian Citizen	Polish	12.6
	2	Canadian Citizen	Philippino	5.9
	3	Canadian Citizen	Spanish	0.6
	4	Refugee	Khmer	2.8
	5	Student Visa	Mandarin	0.6
	6	Student Visa	Mandarin	1.6
	7	Refugee	English: Wolof	3.3
	8	Student Visa	Mandarin	2.6
	9	Student Visa	Mandarin	0.3
	10	Student Visa	Mandarin	0.6
Sub-Treatment	11	Canadian Citizen	Polish	12.6
	12	Canadian Citizen	Greek	1.5
	13	Student Visa	Mandarin	0.6
	14	Permanent Resident	Korean	5.7
	15	Student Visa	Mandarin	0.6
	16	Permanent Resident	Tagalog	3.3
	17	Student Visa	Mandarin	0.2
	18	Student Visa	Mandarin	0.6
	19	Student Visa	Mandarin	1.1
	20	Student Visa	Mandarin	0.3

Although some study participants were refugee status, permanent resident status or held student visas, all students had exposure to formal schooling and had various levels of literacy within their L1 and L2. Participants were from varied linguistic backgrounds with varied L1 proficiencies (e.g., Greek, Khmer, Korean, Mandarin, Philippino, Polish, Spanish, Tagalog and Wolof). Participants had either completed an English as a Second Language course (e.g., ESLA, ESLB, ESLC, ESLD or ELSE; See Appendix A) and/or had completed or were concurrently enrolled in a credit bearing English compulsory credit (e.g., ENG2DI). Additionally, prior to writing the 2014 OSSLT, all but two participants had experience with standardized testing, either in their home country or through the Ontario EQAO language testing Grades 3 and 6 or through EQAO math testing in Grades 3,6 or 9. Some participants were considered by age definitions to be FTE and some were PE, however all students were attempting the 2014 OSSLT for the first time. This experience with standardized testing was noted from student questionnaire data (See Appendix C) and utilized to interpret achievement results where appropriate. Individualized student achievement results in reading skills R1, R2 and R3 were used to determine the effectiveness of the after school balanced strategy program on ELL L2 literacy (as measured on the 2014 OSSLT).

**Refining the sample.** ELL students who took part in this research study were originally identified as candidates because English was not their L1. The ELL student population represented 12% of the total student population (128 of 1067 students). These students came into the Ontario education system through an international program which was comprised largely of visa students. Many of them lived in Ontario with host families and paid for the opportunity to have a secondary school education in the hopes of earning an OSSD for the purpose of pursuing post-secondary training at a Canadian university or college. Each of the students in the sample

had formal education experience, either from their country of origin or within Ontario. Two of the students were considered refugees to Canada and were in the midst of family applications for permanent residency status. However, these two students had uninterrupted formal education throughout their lives and were in no way at an educational disadvantage to the remaining members of the research study sample.

In the Province of Ontario, any student that has been identified as being in need of modifications or accommodations in order to demonstrate curriculum reading and writing skills at provincial standard (Level 3) is eligible for assistive support congruent with the recommendations made on their Individualized Education Plan (IEP). Some of the accommodations used to support reading skills development for students with IEPs include software that reads text to the student, text-to-speech word processors, verbatim reading by an adult, scribing, individualized testing locations and extra time. Since it would be difficult to isolate the effects of these accommodations on reading skills, ELL students with IEPs were not selected for this research study in an effort to reduce variability in the factors that could affect student achievement. However, as noted through EQAO provisions and recommendations for success, these ELL students were permitted up to double the time to complete the 2014 OSSLT, some within the regular classroom setting and some within the small group study carrel library setting.

Therefore, the participants for this research study were drawn from the strata of the population identified as non-IEP FTE ELL or PE ELL students, age 16-21 years of age, still in need of completing the Ontario literacy diploma requirement, having completed ESLA or higher and/or having completed or were currently enrolled in a compulsory credit bearing English course, who gave free consent to partake in an after school balanced strategy literacy program.



Participant criteria included students who had not completed the literacy graduation requirement, who had achieved a base level of ESL equivalent to a minimum of ESLA, who had no identified special needs for learning and who gave consent to participate in this research project. There were 41 students eligible for participation in this study. The sample was comprised of 20 of 41 students who gave consent to participate in this research.

Students were assigned to one of four groups based on their 2010 OSSLT pretest level of achievement (Levels I, R, 1-2 or 3-4). Students within stratified achievement levels were then randomly assigned to treatment ( $n = 10$ ) and sub-treatment groups ( $n = 10$ ) using a mathematical probability formula. Once these random stratified treatment and sub-treatment groups were created, thereby ensuring composition of students with similar L2 reading skills levels, the background questionnaire data was used holistically to review student homogeneity of L1 and L2 experience. Based on background questionnaire data, the treatment and sub-treatment groups initially appeared to be balanced in composition. These two sub-groups were comprised of students who had similar years of formal schooling in both L1 and L2, similar foreign equivalency credits in L2, similar levels of English compulsory courses currently being studied, similar standardized testing experience, similar habits with the use of technology, and similar time spent outside of the school day with L2 reading.

## **Materials**

**Student Questionnaire.** The student questionnaire for this study (see Appendix C) was used pre-intervention to collect information regarding previous exposure to standardized testing within the past five years, the use of L2 in the home, years of formal schooling in L1 and their L2, use of technology at home and their L2 reading and writing habits outside the school day. Information from the background survey was used to complete an initial cursory review of the

treatment and sub-treatment group compositions that were formed based on 2010 OSSLT pretest L2 reading skills achievement.

Post-intervention, the background questionnaire data provided a foundation from which to conduct post-hoc analyses to explain ELL L2 reading skills achievement on the 2010 OSSLT pretest, 2009 OSSLT posttest and 2014 OSSLT as a function of their L1 proficiency (number of years of formal schooling in L1), English proficiency (foreign equivalency L2 credits and Ontario L2 credit accumulation), ESL courses completed, compulsory English course level, and exposure to L2 outside of the school day (reading, writing and speaking). Notably, the student questionnaire used in this study is the same as that used yearly by EQAO on the literacy test. Using this same questionnaire provided the opportunity to compare information about the students in this study to the larger ELL school population. Concurrent and construct validity have already been established for the 2010 OSSLT pretest, 2009 OSSLT posttest, and 2014 OSSLT in this research study by EQAO.

**2010 OSSLT pretest and 2009 OSSLT posttest baselines.** Specified portions of the 2010 practice OSSLT booklet (multiple choice and short written questions that utilized reading skills R1, R2 and R3; See Appendix B) were utilized as a pretest to establish an achievement baseline. Similar specified portions of the 2009 practice OSSLT booklet (See Appendix D) were used as a posttest to examine change in achievement with reading skills R1, R2 and R3 prior to writing the 2014 OSSLT and to examine differences in achievement results between the treatment and sub-treatment groups.

These two years were chosen from the EQAO web resource portal since they were older versions of the literacy test. Although students had online access to the 2009 and 2010 OSSLT booklets, they had not been previously directed to these resources and had instead been

encouraged through the school's literacy team to utilize more interactive resources with exemplars on other websites which have the capability of giving direct feedback rather than static information. The OSSLT assesses literacy with reading skills via three literary formats: graphic, informational and narrative text (Education Quality and Accountability Office, 2007). Narrative texts are works of fiction approximately one page in length. Informational texts contain factual writing augmented with some visual representations (usually photographs). Graphic texts are predominantly comprised of visual charts, graphs or tabularized information.

The standards-based 2010 OSSLT pretest and 2009 OSSLT posttest with criterion referenced interpretations were marked in accordance with EQAO standards and guidelines by the researcher who had familiarity, EQAO training and experience with using the scoring rubrics from the OSSLT (see Appendices E and F respectively). This format of test has been used yearly by EQAO and has been shown through previous assessment to effectively measure L2 reading skills achievement (See Appendix G; Education Quality and Accountability Office, 2010c).

**The 2014 OSSLT.** The fourth instrument used in this research study was the 2014 OSSLT student testing package which was a standards-based test with criterion-referenced interpretations. From this, EQAO determined overall student achievement results and provided the secondary school with contextual data from the student questionnaires, overall student achievement data (including ELL cohort data) and individualized student achievement data for reading skills R1, R2 and R3. This instrumentation piece has been shown to be a reliable data gathering tool by EQAO (Education Quality and Accountability Office, 2010c) by comparing achievement levels assigned by scorers with those of expert scorers to see if they are identical within one point ("adjacent") or more than one point ("non-adjacent") (See Appendix G; Education Quality and Accountability Office, 2011d). Additionally, selected booklets were

circulated blindly during the marking process known as “validity papers” which were used by EQAO to ensure the reliability and consistency of each scorer (Education Quality and Accountability Office, 2013). Reliability of the reading skills items within the 2014 OSSLT was established using Cronbach’s alpha as a measure of sameness. EQAO achieved 95% exact-plus-adjacent agreement for 169 out of 171 items (Education Quality and Accountability Office, 2011d). Further to this, EQAO conducted inter-rater reliability tests between scorers with random papers to ensure consistency in scoring (Education Quality and Accountability Office, 2011d). The assessment of content validity for the 2014 booklet questions had been determined by EQAO expertise utilizing a standard psychometric method that equates student scores from one year to the next using a statistical procedure known as “equating” (Education Quality and Accountability Office, 2013).

**Scoring procedures.** To assess reading skills R1, R2 and R3 on the OSSLT, there are a variety of question types including multiple choice and open response questions. The following scoring procedures were used on each of the assessment instruments. Reading skill R1 was assessed using seven multiple choice questions. Reading skill R2 was assessed using 18 multiple choice questions and two short answer written questions. Reading skill R3 was assessed using six multiple choice questions and two short answer written questions. Multiple choice questions are characterized by four choices from which to indicate the most correct response to the item and were each worth 1 point. Open response reading questions require students to write two or three sentences of explanation that connects the reading selection content to their personal experience and were each worth 3 points. For both the 2010 OSSLT pretest and the 2009 OSSLT posttest the points totalled 42: 7 points for R1, 23 points for R2 and 12 points for R3. The points

were similarly aligned to the 2014 OSSLT results to provide an achievement continuum baseline for comparison of L2 reading skills R1, R2 and R3 across all three tests.

Concurrent and construct validity have already been established between the 2010 OSSLT pretest and 2009 OSSLT posttest in this research study by EQAO. For the 2010 OSSLT (used as the basis for the pretest of reading skills), EQAO determined a strong overall level of reliability (Cronbach's  $\alpha = .89$ ; Education Quality and Accountability Office, 2011d). For the 2009 OSSLT (used as the basis for the posttest of reading skills), EQAO determined a strong overall level of reliability (Cronbach's  $\alpha = .88$ ; Education Quality and Accountability Office, 2010g). Further to this, EQAO determined the corresponding standard errors of measurement for the 2010 OSSLT pretest as 3.9% of the possible maximum score (Education Quality and Accountability Office, 2011d) and for the 2009 OSSLT posttest as 4.0% of the possible maximum score (Education Quality and Accountability Office, 2010g) indicating that the test scores for the questions within the individualized reading skills R1, R2 and R3 are at a satisfactory level of precision and that they measured the intended skills. These standards-based pretests and posttests with criterion referenced interpretations were marked in accordance with EQAO standards and guidelines by the researcher who had familiarity, EQAO training and experience with using the scoring rubrics from the OSSLT. This baseline served as a comparison standard to actual ELL student performance of reading skills 1, 2 and 3 on the 2014 administration of the literacy test.

Inter-rater reliability, concurrent validity and construct validity for the 2014 OSSLT were determined by EQAO and reported as a part of these results. Concurrent and construct validity was calculated to be 99.3% exact plus adjacent for questions on the reading skills portion of the 2014 OSSLT, indicating that the question formation and composition were highly effective at

targeting the intended reading skills. To determine internal test consistency reliability, Cronbach's alpha was used. For the 2014 OSSLT (used for the measurement of reading skills development following the research study), EQAO determined a strong overall level of reliability (Cronbach's  $\alpha = .89$ ) (Education Quality and Accountability Office, 2014). Further to this, EQAO determined the corresponding standard errors of measurement for the 2014 OSSLT as 3.0% of the possible maximum score (Education Quality and Accountability Office, 2014) indicating that the test scores for the questions within the individualized reading skills R1, R2 and R3 are at a satisfactory level of precision and that they measured the intended skills. Inter-rater reliability was calculated as 97.7% exact plus adjacent indicating that there was strong consistency between the scorers for evaluating achievement levels on the 2014 OSSLT. The 2014 OSSLT, with criterion referenced interpretations, was marked in accordance with EQAO standards and guidelines by EQAO trained staff. This data served as a comparison standard to ascertain the extent of ELL student development of L2 reading skills R1, R2 and R3 from the beginning of the research study and to determine the effectiveness of reading skills development using balanced strategy literacy instruction.

## **Procedure**

**Determination of L1 and L2 proficiency levels.** Prior to being placed at a specific secondary school, ELL students were orally interviewed at the time of their arrival by an ESL consultant (centrally) to ascertain their level of developed L1 proficiency as a function of their number of years of formal L1 schooling and the number of foreign equivalency credits completed prior to their arrival in Canada. At this time, students were also interviewed using the STEPs program to ascertain their level of L2 literacy. This information was then used to guide student placement in ESL and/or English compulsory classes. This information was also made

available to researchers, along with the number of L2 credits completed and the current level of English course of study. This data was directly obtained from the affiliated school board (electronic data management system) and utilized during the analysis of study data as a possible explanation for the proficiency of achievement results on the 2010 OSSLT pretest, 2009 OSSLT posttest and the 2014 OSSLT.

Prospective first time eligible participants were identified by the EQAO mailing list that was received in January 2014 and consisted primarily of students who successfully completed their Grade 9 year of study and entered Grade 10 (by year of birth) during the 2013-2014 academic school year. From this list all ELL students (L1 previously noted as ‘other than English’) were identified as being eligible to write or eligible for deferral. Those identified as having the skills and requirements to write the 2014 OSSLT were collated on a list as prospective participants in this study. For a variety of reasons including incomplete Grade 9 compulsory courses and delayed language skills development, some ELL students were deferred to a future writing of the literacy test. During the course of this research study, one student from the treatment group became deferred from writing the 2014 OSSLT when it became clear that her L2 literacy skills were not developed to the point to which writing this literacy requirement would be deemed beneficial to further development of her literacy skills.

**Student invitation to take part in balanced strategy literacy intervention.** ELL students identified as being eligible to participate on the 2014 OSSLT were invited to take part in this study by the lead researcher. At that time, they also received a written information letter (in English; with an offer for translation into their L1 as needed) describing the study with parent/guardian consent forms included and directions to contact the school if interested. Some of the students that were invited to participate in this research study were under the age of 18

years and spoke a foreign language as their primary language. As such, provisions were made for the verbal translation of the written information including extended discussion so that they and their home-stay family were able to understand the nature of the study. All consents for children under the age of 18 years were at the discretion of their parent/guardian. Informed consent was obtained in writing via forms collected prior to the first after-school session attended.

Additionally, students signed a letter of assent that explained the nature of the study at a level of language understood by the participant.

**Establishing a baseline with the 2010 OSSLT pretest.** Both the treatment and sub-treatment groups wrote a 2010 OSSLT pretest of reading skills R1, R2 and R3 during the first after school program session. The pretest consisted of only the reading skills sections (both multiple choice formats and short answer writing) of the 2010 OSSLT. The 2010 OSSLT pretest was administered in accordance with EQAO standardized testing protocols for ELL students (Education Quality and Accountability Office, 2012a, 2012b) in order to establish a baseline comparison of reading skills demonstration between the two sub-groups. The 2010 OSSLT pretest was administered by an Ontario Certified Teacher who had extensive experience working with ELL students and acted solely in an instructional capacity. This study was further supported by additional Ontario Certified Teachers and professional translators who spoke the first languages of the ELL students who took part in the treatment group. Some of these teachers knew and/or have taught the students who gave assent to be participants in the research study and acted in supportive capacities to build reading comprehension in both L1 and L2 languages. The instructional teacher collected and collated assessment data in a paper ledger format which was filed securely under lock and key when not in use. This data was translated by this research study lead investigator to electronic record keeping (excel spreadsheet) and saved with a securely



coded password. The 2010 OSSLT pretest assessment data was used to inform instructional planning utilizing assessment for learning to guide and refine the goals of each of the eight instructional sessions.

**Balanced strategy literacy intervention.** During regular day school instruction, both the treatment and sub-treatment groups were exposed to literacy instruction as a part of traditional preparations to write the 2014 OSSLT within their classes. Additionally, both the treatment and sub-treatment groups were then exposed to 10 one-hour sessions provided after school over the period of two months, during which time students were expected to attend every session, complete two assessments, take part in class discussions, and complete homework assignments to support skills acquisition (see Appendix H). These 10 sessions (two-assessment; eight-instructional) were taught by the same instructor who continued to act in an instructional role only, offering verbal and written descriptive feedback (assessment as learning) and worked in tandem with both print and electronic resources. Both the treatment and sub-treatment groups attended an instructional portion of each session (thirty minute maximum) that utilized balanced literacy strategies to enhance L2 reading skills (e.g., choral reading, descriptive feedback, use of technology, high interest vocabulary, higher order questioning, guided reading, peer discussion, whole group discussion and word walls) for the whole cohort.

Following the whole group portion of the lesson the treatment and sub-treatment groups were separated into two different rooms for remainder of each session. The sub-treatment group continued L2 skills acquisition under the supervision of the instructional teacher who ensured that only the targeted strategies were practiced (see Appendix I). The treatment group continued under the supervision of a multilingual instructional team and was exposed to instructional strategies which included a blend of L1 and L2 reading strategies (e.g., application of reading

texts to culture, choral reading; descriptive feedback; use of technology, graphic organizers, high interest vocabulary, guided reading, peer discussion and word pairing; See Appendix I). Explicit teacher modeling of the aforementioned reading skills included subtleties of verbal cadence between L1 and L2 (e.g., intonations and stressors with regards to meaning of text and usage of text types), text punctuation, sentence structures and verb tenses in order to synthesize student L1 and L2 reading skills.

Prior to the delivery of each lesson, the instructional teacher was briefed and assessed to ensure he exhibited fluency in the targeted skills and modes of delivery being used as a part of the whole group strategy. This lesson delivery to the whole group was directly observed with qualitative notes taken. The instructional teacher was also briefed and assessed for fluency in the targeted strategies to be used with the sub-treatment group (which were identical to those skills used during the whole group instruction). The L1 instructors were briefed and assessed for fluency in the targeted strategies to be used with the treatment group during the second half of each instruction session. There was a formal debriefing following each session with the intent of ensuring alignment with the targeted strategies for reading skills development in each sub-group.

**Evaluating program effectiveness with the 2009 OSSLT posttest.** Following the intervention, both the treatment and sub-treatment groups completed a posttest of reading skills R1, R2 and R3 (assessment of learning) that consisted of only the reading skills sections (both multiple choice formats and short answer writing) of the 2009 OSSLT. The 2009 OSSLT posttest was administered by the same teacher who administered the 2010 OSSLT pretest, acting only in an instructional capacity and in accordance with EQAO standardized testing protocols for ELL students (Education Quality and Accountability Office, 2012a, 2012b). The instructional teacher evaluated student responses and recorded individualized achievement in the paper ledger.

There were a few days between the 2009 OSSLT posttest and the administration of the 2014 OSSLT during which time the instructional teacher followed up with each of these ELL students to provide individualized skills feedback. This detailed assessment of learning interaction clarified for the student next steps with various reading strategies in accordance with their exposure to such strategies within the treatment or sub-treatment group. All students from the research study then wrote the 2014 OSSLT with their peers as a part of their regular school day (see Table 3).

Table 3

*Research Study Timeline from 2010 OSSLT Pretest to 2014 OSSLT*

Timeline (School Days)	Instructional focus
1	Pretest
4	Instructional Lesson
7	Instructional Lesson
10	Instructional Lesson
12	Instructional Lesson
14	Instructional Lesson
16	Instructional Lesson
18	Instructional Lesson
20	Instructional Lesson
22	Posttest
23	Individualized Feedback
26	2014 OSSLT

**2014 OSSLT reading skills achievement.** As described previously, independent variables assessed in this study include program attendance, length of formal schooling in L1 and L2, L2 foreign equivalency credits, L2 Ontario credits, ESL level, English course level of study, exposure to L2 reading and writing practice outside of the school day, and exposure to standardized testing. Each of the independent variables was analyzed for significance of effect on student achievement of reading skills R1, R2 and R3. Instructional method served as the source of distinction between the treatment and sub-treatment groups. Program attendance indicated level of student participation in the balanced strategy literacy program. These two variables were

the main independent variables and were used to establish evidence for hypotheses H<sub>1</sub> (higher levels of program attendance will be associated with higher scores on R1, R2 and R3 achievement), H<sub>2</sub> (students who receive balanced strategy literacy instruction in both L1 and L2 will have higher R1 achievement scores in comparison to students who receive balanced strategy literacy instruction in L2 only), H<sub>3</sub> (balanced strategy literacy instruction will have no effect on R2 achievement), and H<sub>4</sub> (students who receive balanced strategy literacy instruction in both L1 and L2 will have higher R3 achievement scores in comparison to students who receive balanced strategy literacy instruction in L2 only). Mediating independent variables include number of years of formal schooling in L1 and L2, L1 and L2 credit completion, and current level of ESL and/or English course enrolment. Moderating independent variables include exposure to English language outside of the school day, exposure to standardized testing, and the length of time that the ELL student has been in school in Ontario.

**Debriefing with the participants.** Once 2014 provincial overall results were released in June 2014, all students from both the treatment group and the sub-treatment group were invited back individually to debrief and review their generalized testing results and received recommendations for future learning. These results only specified whether or not the student passed or failed the 2014 OSSLT along with their total point value obtained. The results did not specify student achievement of individualized reading skills R1, R2 and R3. It is important to note that the focus of these individualized meetings was to help students feel good about their investment in time over the past few months with the purpose of developing a greater proficiency in their literacy skills, regardless of sub-grouping. At this point, students from the research study were formally released from study participation. Students were informed that they were welcome to receive research study results as well as individualized results from EQAO in September 2014

and were contacted with an invitation. In late October 2014, ELL students from the balanced strategy literacy program who were unsuccessful on the 2014 OSSLT took part in an individualized debriefing to review their Individual Item Reports (IIRs). These opportunities provided item specific discussions of where to focus the next steps of their literacy development prior to once again attempting the literacy test in the spring of 2015.

## Chapter 4 Results

### Establishment of Context for Analyses.

**Summary of the purpose of research.** The main purpose of this research was to examine the effects of a balanced strategy literacy program on the overall achievement of reading skills on the 2014 Ontario Secondary School Literacy Test (OSSLT) for First Time Eligible (FTE) and Previously Eligible (PE) English Language Learners (ELLs). The analysis focused specifically on the impact of this program on reading skill scores as measured by the 2014 OSSLT. As described earlier, reading skills on the 2014 OSSLT were comprised of three subsets, which included understanding explicitly stated information and ideas (R1), understanding implicitly stated information and ideas (R2), and making connections between information and ideas in a reading selection and personal knowledge and experience (R3). Hypotheses were defined in relation to the achievement of each of the reading skills R1, R2 and R3 as a result of involvement in the balanced strategy intervention program. The first hypothesis (H<sub>1</sub>) predicted that higher levels of program attendance would be associated with higher scores on R1, R2 and R3 achievement, as measured by the 2014 OSSLT. The second hypothesis (H<sub>2</sub>) predicted that students who received balanced strategy literacy instruction in both L1 and L2 would have higher R1 achievement scores in comparison to students who received balanced strategy literacy instruction in L2 only. The third hypothesis (H<sub>3</sub>) predicted that balanced strategy literacy instruction would have no effect on R2 achievement. Finally, the fourth hypothesis (H<sub>4</sub>) predicted that students who received balanced strategy literacy instruction in both L1 and L2 would have higher R3 achievement scores in comparison to students who received balanced strategy literacy instruction in L2 only.

In order to test the hypotheses, overall achievement results were compared between the treatment group and the sub-treatment group for the three reading skills R1, R2 and R3 at all stages of the research study. Prior to intervention, students in the treatment group ( $n = 10$ ) and students in the sub-treatment group ( $n = 10$ ), wrote the 2010 OSSLT pretest of reading skills R1, R2 and R3 for the purposes of establishing reading skills equivalency prior to intervention. Following the intervention of the balanced strategy literacy program, these students ( $N = 20$ ) wrote the 2009 OSSLT posttest of reading skills R1, R2 and R3 in order to compare achievement of the treatment group ( $n = 10$ ) to the sub-treatment group ( $n = 10$ ). Six days post-intervention, both the treatment group ( $n = 9$ )<sup>3</sup> and sub-treatment group ( $n = 10$ ) wrote the 2014 OSSLT ( $N = 19$ )<sup>4</sup> with resulting achievement scores of reading skills R1, R2 and R3 being compared between treatment and sub-treatment groups.

**Determining significance of student achievement.** Descriptive statistical analyses were performed on the 2010 OSSLT pretest, the 2009 OSSLT posttest and 2014 OSSLT achievement data to ascertain measures of central tendency including means, modes, frequency distributions and confidence intervals. Measures of variability were then reviewed to ascertain the range of scores, standard deviations, mean absolute deviations and homogeneity of variances using frequency distributions (histograms, P-Plots and scatterplots). To determine significance of these findings, the effect size was calculated using Cohen's  $d$  to find the standardized mean difference. Multiple regressions were conducted using forced entry method to ascertain models of best fit for

---

<sup>3</sup> Upon additional review of the profiles of the students engaged in this research study by the school Student Success Teacher, and in preparation of submitting final lists to EQAO confirming students writing the 2014 OSSLT, one student from the treatment group was granted a deferral due to limited language development. Since the student was a participant in the treatment group this decreased the subgroup total from  $n = 10$  to  $n = 9$  after completion of the 2009 OSSLT posttest.

<sup>4</sup> Because one student was granted a deferral from writing the 2014 OSSLT following the completion of interventions and 2009 OSSLT posttest, this changed the overall 2014 OSSLT cohort number from  $N = 20$  to  $N = 19$ .



inclusion of independent variable effect on student achievement of reading skills R1, R2, R3 and in total together on the 2014 OSSLT.

**Overview of analyses.** The main independent variables include instructional method (eight one hour after school balanced strategy literacy lessons with L1 instruction; coded 0 for sub-treatment and 1 for treatment) and program attendance (10 sessions – eight instructional and two assessment; coded 0 to 8 on an interval scale based on the number of instructional sessions attended).

The mediating independent variables include number of years of formal L1 schooling (measured on a ratio scale from 0 to 17 years), number of years of formal L2 schooling (measured on a ratio scale from 0 to 12 years), number of L1 credits completed prior to study in Ontario (measured on a ratio scale from 0 to 26 credits), number of foreign equivalency English credits (measured on a ratio scale from 0 to 4 credits), number of L2 credits completed in Ontario (measured on a ratio scale 0 to 30 credits), current level of ESL and/or English course enrolment (measured on an interval scale from level 1 (ESL A) to level 8 (ENG3CI/ENG3UI; See Appendix A).

The moderating independent variables include exposure to L2 outside of school per week (measured on a ratio scale from 0 to 20 instances), exposure to standardized testing (measured on a ratio scale from 0 to 3 instances), and the length of time that the ELL student has been in school in Ontario (measured on a ratio scale from 0 to 13 years).

Preliminary analyses focused on examining similarities and differences between the treatment and the sub-treatment group by comparing their background profiles and descriptive information. Descriptive statistics are presented first, followed by within and between sub-group comparisons of achievement of reading skills R1, R2 and R3 on the 2010 OSSLT pretest, the

2009 OSSLT posttest and the 2014 OSSLT. Independent samples t-tests and correlation analyses are used to explore the significance of relationships between variables (such as attendance and secondary school education experience in both the student's first language (L1) and their second language (L2; English)) and reading skills achievement on the 2014 OSSLT for the treatment and sub-treatment groups. The purpose of these analyses is to present a description of the students involved in this study and to establish evidence for pre-intervention sub-group equivalency.

**Establishment of pre-treatment equivalency.** For the first part of the analysis, treatment group and sub-treatment group results were compared on a number of different variables using independent samples t-tests, for the purposes of establishing pre-treatment group equivalency. As indicated in Table 4, t-test results suggested there were no significant differences between treatment and sub-treatment group compositions on any of the background variables prior to instructional intervention.

Table 4

*Independent Samples T-Test Results for Sub-Group Equivalencies*

	$M_{\text{treatment}}$	$M_{\text{sub-treatment}}$	t	df	Sig.	$M_{\text{difference}}$	$SE_{\text{difference}}$	95% CI
Formal Schooling in L1 (years; range 0 to 17)	10.20	11.00	0.42	18	.68	0.80	1.89	[-3.17, 4.77]
Formal Schooling in L2: English (years; range 0 to 12)	8.50	8.50	0.00	18	1.00	0.00	1.30	[-2.74, 2.74]
English Equivalency Credits prior to schooling in Canada (total; range 0 to 3)	1.42	1.40	-.04	18	.97	-0.02	0.53	[-1.13, 1.09]
Current Level of English Course (levels 1-9; range ESL-A to ENG2-LPD)	6.10	5.80	-0.32	18	.76	-0.30	0.95	[-2.29, 1.69]
Standardized Testing Experience (total; range from 0 to 3)	1.30	1.20	-0.26	18	.80	-0.10	0.39	[-0.92, 0.72]
Instructional Session Attendance (number; range from 0 to 8)	4.70	4.40	-0.24	18	.82	-0.30	1.28	[-2.98, 2.38]

Note:  $N = 20$ ;  $n_{\text{treatment group}} = 10$  and  $n_{\text{sub-treatment group}} = 10$

L1: The student's first language (not English)

L2: The student's second language (English)

Prior to intervention, both the treatment group ( $n = 10$ ) and sub-treatment group ( $n = 10$ ) respectively showed similar levels of literacy development in their first language as a function of number of years of formal schooling in their first language (10 and 11 years respectively, with individual values ranging from a minimum of 5 years to a maximum of 17 years). Both the treatment and sub-treatment group showed similar numbers of equivalency English credits achieved in their home country prior to arrival in Ontario (approximately 1 credit on average

regardless of grouping, with individual values ranging from 0 to 3 credits earned). Both the treatment and sub-treatment groups demonstrated similar English language skills development as a function of the number of years of schooling in L2 (on average 8.5 years regardless of grouping with values ranging from 2 to 12 years). At the time of study, both the treatment and sub-treatment groups showed similar levels of English course level of study indicating that their current language development during the project was also at comparable levels of L2 proficiency (roughly equivalent to Grade 9, with individual values ranging from level 2 (equivalent to ESLB) through to level 8 (equivalent to Grade 10)). Further to this, both the treatment and sub-treatment groups had similar levels of experience with standardized testing (each having on average at least 1 experience, with individual variances from no experience through to those students who had 3 experiences writing standardized tests). Finally, students within both the treatment and sub-treatment groups attended similar numbers of instructional sessions during the course of this research study (roughly half of the eight instructional sessions delivered, with individual variances in attendance from no instructional sessions attended through to those students with perfect attendance (eight instructional sessions)).

**Linearity, equal variances and normality.** Assumptions about linearity, equal variances and normality were met for the 2010 OSSLT Pretest R1, R2 and R3 achievement since the data had a normal histogram distribution (See Figure 1), was linear in a normal P-P plot of regression (See Figure 2) and was roughly rectangular in shape with no data points overlapping or crowding when arranged on a scatterplot (See Figure 3).

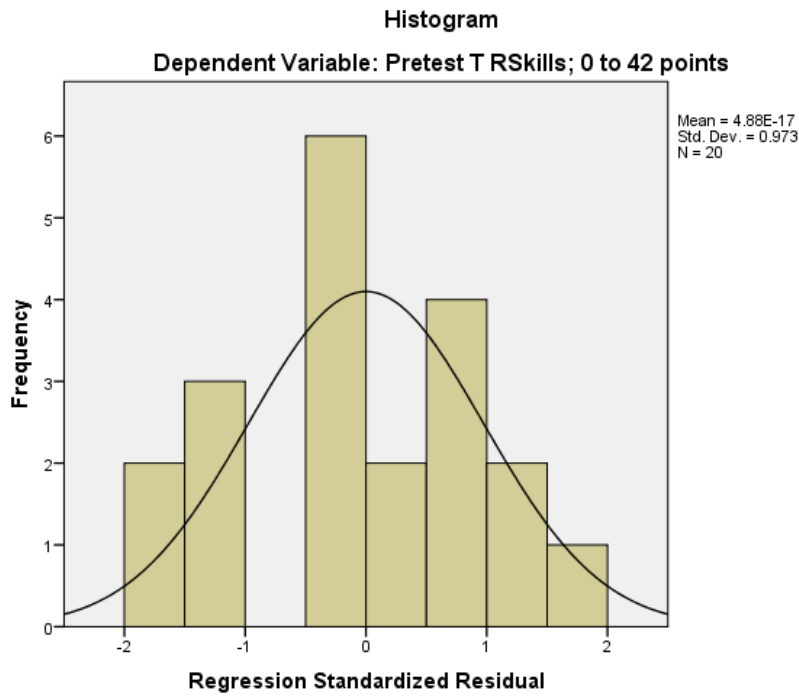


Figure 1 Normal histogram distribution of 2010 OSSLT pretest achievement data.

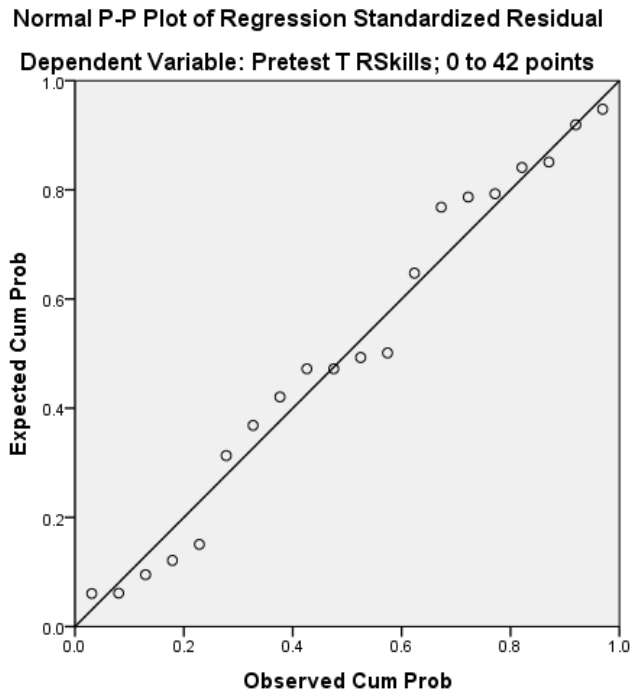


Figure 2 Linear P-P plot of 2010 OSSLT pretest achievement data.

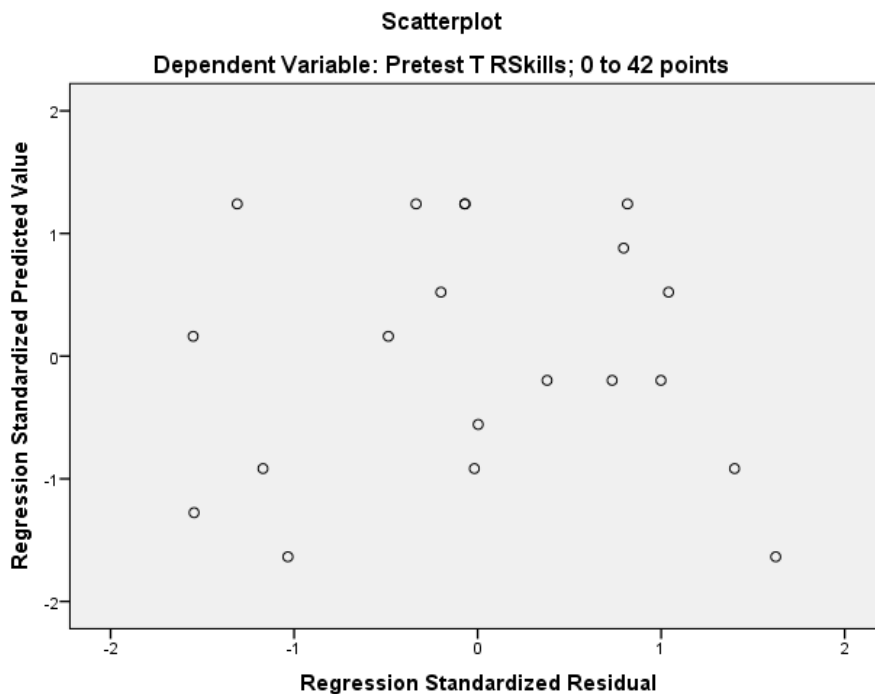


Figure 3 Scatterplot of 2010 OSSLT pretest achievement data.

**Analysis of achievement on the 2010 OSSLT pretest.** A comparison of treatment group and sub-treatment group 2010 OSSLT pretest achievement results using an independent samples t-test was then conducted for the purposes of providing a baseline from which to make post-treatment comparisons following the balanced strategy literacy program. As illustrated in Table 5, the t-test results indicated no significant difference in the overall 2010 OSSLT pretest reading skills scores between the treatment group ( $M_{T2010OSSLT} = 20.9$ ,  $SD_{T2010OSSLT} = 11.3$ ) and the sub-treatment group ( $M_{ST2010OSSLT} = 19.4$ ,  $SD_{ST2010OSSLT} = 11.6$ ), with overall achievement on average being within 2 points of one another (even though scores varied from 0 to 35 points out of a possible perfect score of 42 points).

Table 5

*Independent Samples T-Test Results for 2010 OSSLT Pretest Achievement*

	$M_{\text{treatment}}$	$M_{\text{sub-treatment}}$	t	df	Sig.	$M_{\text{difference}}$	$SE_{\text{difference}}$	95% CI
Reading Skill R1 (Score 0-7 pts)	3.40	3.20	-0.24	18	.81	-0.20	0.83	[-1.94, 1.54]
Reading Skill R2 (Score 0-23 pts)	12.00	10.80	-0.39	18	.70	-1.20	3.08	[-7.67, 5.27]
Reading Skill R3 (Score 0-12 pts)	5.50	5.40	-0.06	18	.95	-0.10	1.60	[-3.47, 3.27]
2010 OSSLT Pretest Achievement (Score 0-42 pts)	20.90	19.40	-0.29	18	.77	-1.50	5.13	[-12.28, 9.28]

Note:  $N = 20$ ;  $n_{\text{treatment group}} = 10$  and  $n_{\text{sub-treatment group}} = 10$

R1: Reading Skill 1: understanding explicit information

R2: Reading Skill 2: understanding implicit information

R3: Reading Skill 3: making connections from the reading to personal knowledge and experience

2010 OSSLT Pretest: Achievement defined as Total of Reading Skills R1, R2 and R3

Similarly, as illustrated in Table 5, there were no significant differences in 2010 OSSLT pretest subtest scores for reading skills R1, R2 and R3 between the treatment and sub-treatment group.

### **Post-Intervention Sub-Group Achievement Analyses.**

**Rationale for post-intervention instrument analyses.** Since the intent of the balanced strategy intervention program was to help ELL students improve their achievement of reading skills R1 and R3 on the 2014 OSSLT, it was decided to focus the analysis on that of the 2014 OSSLT and not the 2009 OSSLT posttest achievement data that followed the eight instructional interventions, although results of the 2009 OSSLT posttest achievement comparisons are included below. The instructional interventions and 2009 OSSLT posttest both occurred in close proximity to the 2014 OSSLT (essentially six weeks from start to finish, with interventions that



began the second week of February 2014 and continued through to the third week of March 2014, the 2009 OSSLT posttest was written in the third week of March 2014 just two days after the final instructional lesson, and the 2014 OSSLT took place in the fourth week of March 2014, just six days after the post-intervention test; see Table 3).

The post-intervention test was conducted in order to provide an additional opportunity for students to build their confidence with reading skills demonstration prior to taking part the following week in the 2014 OSSLT. During the final days leading up to the 2014 OSSLT, this exposure to one more standardized testing opportunity permitted for individualized descriptive feedback to focus student preparations. This targeted individualized review of student achievement of reading skills R1, R2 and R3 provided a seamless transition for students from the somewhat artificial environment of the research study into a very practical demonstration of reading skills on the 2014 OSSLT that acted as a better predictor of instructional program impact on achievement than the 2009 OSSLT post-treatment test.

**Analysis of achievement on the 2009 OSSLT posttest.** A comparison of treatment group and sub-treatment group post-treatment achievement results using independent samples t-tests was then conducted for the purposes of comparing post-treatment achievement on the 2009 OSSLT posttest. This comparison provides an initial overall look at achievement differences between treatment and sub-treatment groups on the 2009 OSSLT posttest. As illustrated in Table 6, the t-test results for 2009 OSSLT posttest achievement indicated no significant difference between the overall reading skills scores of the treatment group ( $M_{T2009OSSLTtotalR} = 24.6$ ,  $SD_{T2009OSSLTtotalR} = 11.3$ ) and the sub-treatment group ( $M_{ST2009OSSLTtotalR} = 22.9$ ,  $SD_{ST2009OSSLTtotalR} = 14.0$ ), with overall achievement on average being within two points of each another (even though scores varied from 4 to 38 points of a possible perfect score of 42 points). The results of this

comparison and the comparison of subtest results of reading skills R1, R2 and R3 are presented in Table 6.

Table 6

*Independent Samples T-Test Results for 2009 OSSLT Posttest Achievement*

	$M_{\text{treatment}}$	$M_{\text{sub-treatment}}$	t	df	Sig.	$M_{\text{difference}}$	$SE_{\text{difference}}$	95% CI
Reading Skill R1 (Score 0-7 pts)	4.00	4.20	.23	18	.82	0.20	0.87	[-1.62, 2.02]
Reading Skill R2 (Score 0-23 pts)	12.30	11.60	-0.21	18	.84	-0.70	3.32	[-7.68, 6.28]
Reading Skill R3 (Score 0-12 pts)	8.30	7.10	-0.72	18	.48	-1.2	1.67	[-4.71, 2.31]
2009 OSSLT Achievement (Score 0-42 pts)	24.60	22.90	-0.29	18	.77	-1.70	5.71	[-13.69, 10.29]

Note:  $N = 20$ ;  $n_{\text{treatment group}} = 10$  and  $n_{\text{sub-treatment group}} = 10$

R1: Reading Skill 1: understanding explicit information

R2: Reading Skill 2: understanding implicit information

R3: Reading Skill 3: making connections from the reading to personal knowledge and experience

2009 OSSLT Achievement defined as Total of Reading Skills R1, R2 and R3

As illustrated in Table 6, when broken down by individual reading skills R1, R2 and R3, these post-intervention achievement scores on the 2009 OSSLT posttest were quite similar between the treatment group ( $n = 10$ ) and sub-treatment group ( $n = 10$ ). In contrast to hypothesis  $H_2$  that predicted students who received balanced strategy literacy instruction in both L1 and L2 would have higher R1 achievement scores in comparison to students who received balanced strategy literacy instruction in L2 only, no significant difference in post-intervention achievement levels (measured as total number of correct questions) were indicated by t-test results between the treatment group ( $M_{T2009OSSLTR1} = 4.0$ ,  $SD_{T2009OSSLTR1} = 1.9$ ) and the sub-treatment group ( $M_{ST2009OSSLTR1} = 4.2$ ,  $SD_{ST2009OSSLTR1} = 1.9$ ). In keeping with the hypothesis  $H_3$  that predicted that balanced strategy literacy instruction would have no effect on R2 achievement, no significant difference in post-intervention achievement levels (measured as total number of correct questions) were indicated by t-test results between the treatment group

( $M_{T2009OSSLTR2} = 12.3$ ,  $SD_{T2009OSSLTR2} = 6.3$ ) and the sub-treatment group ( $M_{ST2009OSSLTR2} = 11.6$ ,  $SD_{ST2009OSSLTR2} = 8.4$ ). In contrast to hypothesis  $H_4$  that predicted students who received balanced strategy literacy instruction in both L1 and L2 would have higher R3 achievement scores in comparison to students who received balanced strategy literacy instruction in L2 only, no significant differences in post-intervention achievement levels (measured as total number of correct questions) were indicated by t-test results between the treatment group ( $M_{T2009OSSLTR3} = 8.3$ ,  $SD_{T2009OSSLTR3} = 3.4$ ) and the sub-treatment group ( $M_{ST2009OSSLTR3} = 7.1$ ,  $SD_{ST2009OSSLTR3} = 4.0$ ).

**Linearity, equal variances and normality.** Assumptions about linearity, equal variances and normality were met for the 2014 OSSLT R1, R2 and R3 achievement since the data had a normal histogram distribution (See Figure 4), was linear in a normal P-P plot of regression (See Figure 5) and was roughly rectangular in shape with no data points overlapping or crowding when arranged on a scatterplot (See Figure 6).

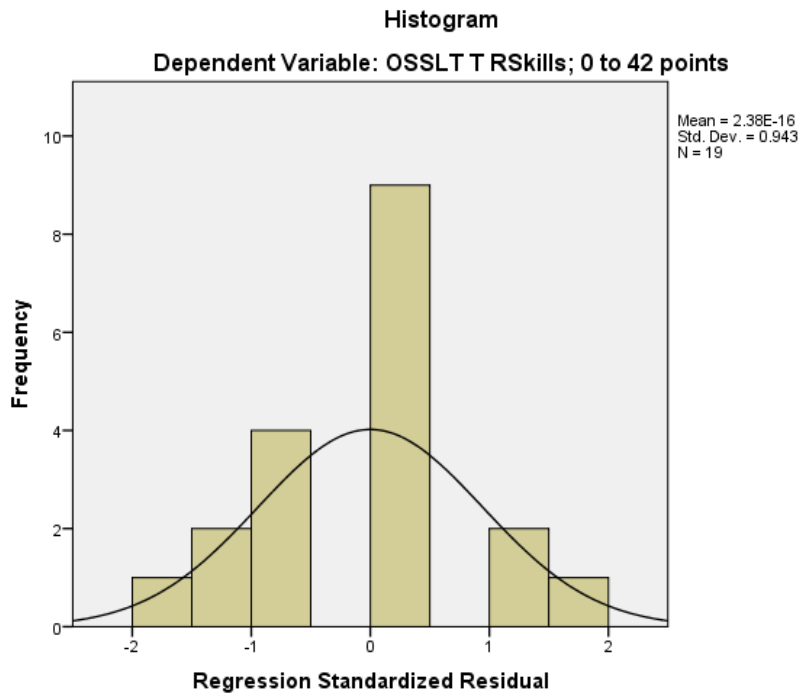


Figure 4 Normal histogram distribution of 2014 OSSLT achievement data.

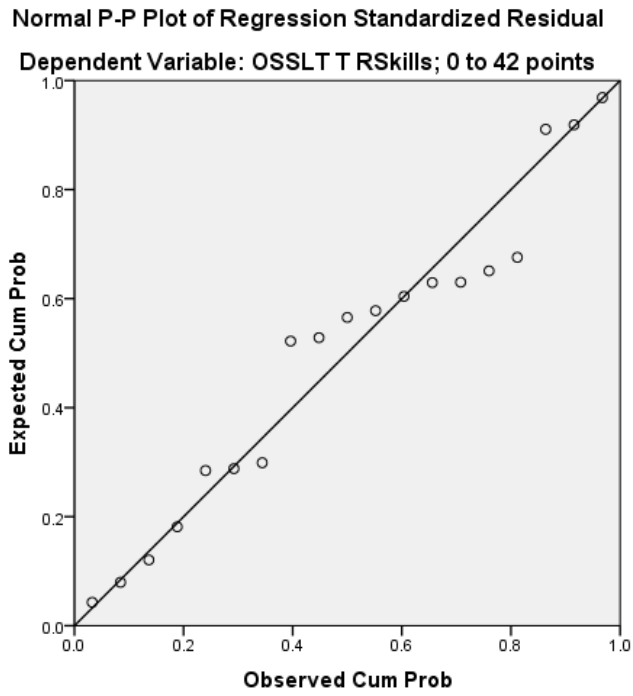


Figure 5 Linear P-P plot of 2014 OSSLT achievement data.

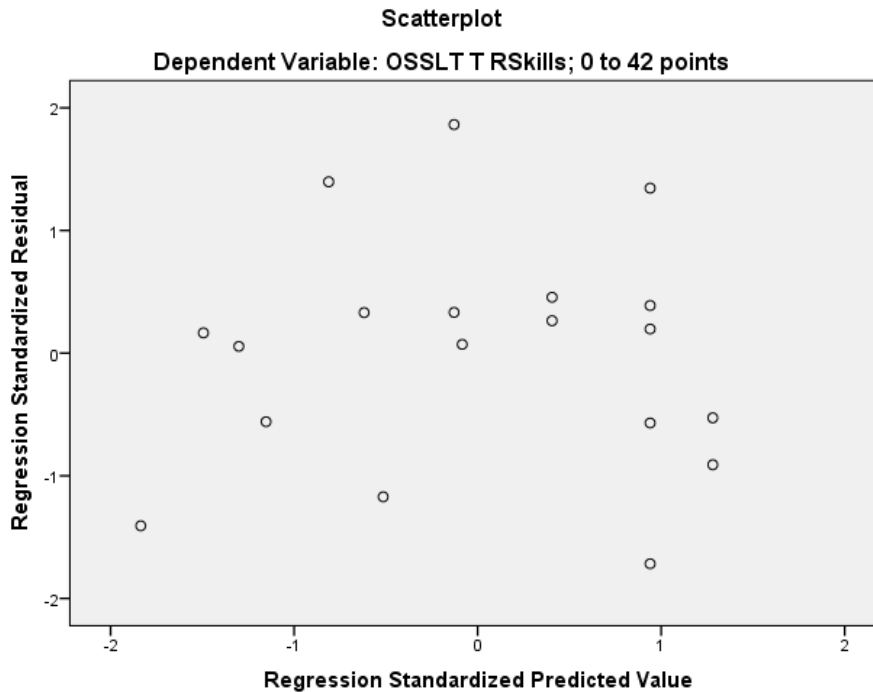


Figure 6 Scatterplot of 2014 OSSLT achievement data.

**Analysis of achievement on the 2014 OSSLT.** A comparison of treatment group and sub-treatment group post-intervention achievement results using independent samples t-tests, for the purposes of comparing post-treatment achievement on the 2014 OSSLT, was then conducted. This comparison provides an initial overall look at achievement differences between treatment and sub-treatment groups on the 2014 OSSLT. As illustrated in Table 7, the t-test results for 2014 OSSLT achievement indicated no significant difference between the overall reading skills scores of the treatment group ( $M_{T2014OSSLTtotalR} = 25.7$ ,  $SD_{T2014OSSLTtotalR} = 9.9$ ) and the sub-treatment group ( $M_{ST2014OSSLTtotalR} = 25.0$ ,  $SD_{ST2014OSSLTtotalR} = 9.6$ ), with overall achievement on average being within one point of each another (even though scores varied from 3 to 40 points of a possible perfect score of 42 points). The results of this comparison and the comparison of subtest results of reading skills R1, R2 and R3 are presented in Table 7.

Table 7

*Independent Samples T-Test Results for 2014 OSSLT Achievement*

	$M_{\text{treatment}}$	$M_{\text{sub-treatment}}$	t	df	Sig.	$M_{\text{difference}}$	$SE_{\text{difference}}$	95% CI
Reading Skill R1 (Score 0-7 pts)	4.78	4.50	-0.35	17	.73	-0.28	0.79	[-1.94, 1.39]
Reading Skill R2 (Score 0-23 pts)	13.56	12.90	-0.25	17	.80	-0.66	2.58	[-6.10, 4.79]
Reading Skill R3 (Score 0-12 pts)	7.33	7.60	0.19	17	.85	0.27	1.39	[-2.67, 3.21]
2014 OSSLT Achievement (Score 0-42 pts)	25.67	25.00	-0.15	17	.88	0.67	4.50	[-10.16, 8.83]

Note:  $N = 19$ ;  $n_{\text{treatment group}} = 9$  and  $n_{\text{sub-treatment group}} = 10$

R1: Reading Skill 1: understanding explicit information

R2: Reading Skill 2: understanding implicit information

R3: Reading Skill 3: making connections from the reading to personal knowledge and experience

2014 OSSLT Achievement defined as Total of Reading Skills R1, R2 and R3

As illustrated in Table 7, when broken down by individual reading skills R1, R2 and R3, these post-intervention achievement scores on the 2014 OSSLT were quite similar between the treatment group ( $n = 9$ ) and sub-treatment group ( $n = 10$ ). In contrast to hypothesis  $H_2$  that predicted students who received balanced strategy literacy instruction in both L1 and L2 would have higher R1 achievement scores in comparison to students who received balanced strategy literacy instruction in L2 only, no significant difference in post-intervention achievement levels (measured as total number of correct questions) were indicated by t-test results between the treatment group ( $M_{T2014OSSLTR1} = 4.8$ ,  $SD_{T2014OSSLTR1} = 1.9$ ) and the sub-treatment group ( $M_{ST2014OSSLTR1} = 4.5$ ,  $SD_{ST2014OSSLTR1} = 1.5$ ). In keeping with the hypothesis  $H_3$  that predicted that balanced strategy literacy instruction would have no effect on R2 achievement, no significant difference in post-intervention achievement levels (measured as total number of correct questions) were indicated by t-test results between the treatment group ( $M_{T2014OSSLTR2} = 13.6$ ,  $SD_{T2014OSSLTR2} = 2.6$ ) and the sub-treatment group ( $M_{ST2014OSSLTR2} = 12.9$ ,  $SD_{ST2014OSSLTR2} = 2.6$ ).



$T_{2014OSSLTR2} = 5.5$ ) and the sub-treatment group ( $M_{ST2014OSSLTR2} = 12.9$ ,  $SD_{ST2014OSSLTR2} = 5.7$ ). In contrast to hypothesis  $H_4$  that predicted students who received balanced strategy literacy instruction in both L1 and L2 would have higher R3 achievement scores in comparison to students who receive balanced strategy literacy instruction in L2 only, no significant differences in post-intervention achievement levels (measured as total number of correct questions) were indicated by t-test results between the treatment group ( $M_{T2014OSSLTR3} = 7.3$ ,  $SD_{T2014OSSLTR3} = 2.5$ ) and the sub-treatment group ( $M_{ST2014OSSLTR3} = 7.6$ ,  $SD_{ST2014OSSLTR3} = 3.4$ ), as measured by the 2014 OSSLT.

### **Post-Intervention Cohort Achievement Analyses.**

**Cohort achievement analyses.** A holistic look at overall achievement of the entire research study group ( $N = 19$ ) in relation to various variables were examined in the analyses that follow. These analyses were conducted in relation to underlying factors that were common to all research study participants for the purposes of examining the effect of these variables on overall student achievement of reading skills R1, R2 and R3 on the 2014 OSSLT.

**Analysis of post-intervention cohort achievement and program attendance.** A comparison of balanced strategy literacy program attendance and 2014 OSSLT achievement results using independent samples t-tests, for the purposes of comparing attendance and achievement, was then conducted. This comparison provides an overall look at achievement differences in relation to the number of balanced strategy literacy sessions attended. As illustrated in Table 8, the t-test results for achievement indicated non-significance between the overall reading skills scores for fewer sessions attended ( $M_{attend < 4 \text{ sessions}} = 22.8$ ,  $SD_{attend < 4 \text{ sessions}} = 10.2$ ) and for greater sessions attended ( $M_{attend \geq 4 \text{ sessions}} = 26.5$ ,  $SD_{attend \geq 4 \text{ sessions}} = 9.4$ ), with overall achievement on average being within four points (even though scores varied from 0 to 40 points

of a possible perfect score of 42 points). The results of this comparison and the comparison of subtest results of reading skills R1, R2 and R3 are presented in Table 8.

Table 8

*Independent Samples T-Test Results for Attendance on 2014 OSSLT Achievement*

	M <sub>attend</sub>	M <sub>attend</sub>	t	df	Sig.	M <sub>difference</sub>	SE	95% CI
	<4sessions	≥4sessions					difference	
Reading Skill R1 (Score 0-7 pts)	4.33	4.77	-0.43	6	.685	-0.44	1.03	[-2.89, 2.02]
Reading Skill R2 (Score 0-23 pts)	12.17	13.69	-.55	9	.597	-1.53	2.79	[-7.78, 4.73]
Reading Skill R3 (Score 0-12 pts)	6.33	8.00	-1.23	11	.242	-1.67	1.35	[-4.63, 1.29]
2014 OSSLT Achievement (Score 0-42 pts)	22.83	26.46	-.74	9	.478	-3.63	4.91	[-14.71, 7.45]

Note:  $N = 19$

R1: Reading Skill 1: understanding explicit information

R2: Reading Skill 2: understanding implicit information

R3: Reading Skill 3: making connections from the reading to personal knowledge and experience

Attendance to Instructional Sessions: 8 maximum

Group 'attend<4sessions' 0 to 3; note:  $n = 7$

Group 'attend≥4sessions' 4 to 8; note:  $n = 13$

As illustrated in Table 8, when broken down by individual reading skills R1, R2 and R3, these 2014 OSSLT achievement scores similarly showed non-significant achievement ( $n = 19$ ) differences in relation to program attendance. As measured by 2014 OSSLT achievement, non-significant differences in achievement levels (measured as total number of correct questions) were indicated between those students who attended less than four balanced strategy literacy sessions and those who attended four or more. In contrast to hypothesis  $H_1$  that predicted that higher levels of program attendance would be associated with higher scores on R1, R2 and R3 achievement, as measured by the 2014 OSSLT, no significant results were found.

A whole group comparison between program attendance and post-intervention achievement on the 2014 OSSLT using a Pearson correlation analysis was then conducted for the purposes of examining whether or not there was a positive relationship between achievement scores with the reading skills on the 2014 OSSLT and the number of instructional sessions

attended during the research study. In contrast to hypothesis H<sub>1</sub> which predicted that higher levels of program attendance would be associated with higher scores on R1, R2 and R3 achievement, the statistical analysis showed no significant relationship between overall achievement of reading skills R1, R2 and R3 on the 2014 OSSLT and the number of sessions attended ( $r = .205, p = .401, N = 19$ ). These results are summarized in Table 9. When broken down by individual reading skills R1, R2 and R3, the post-intervention achievement on the 2014 OSSLT (measured as total number of correct questions) was not significantly correlated with the number of balanced strategy literacy sessions attended (measured as total number of full sessions attended).

Table 9

*Correlation (Pearson  $r$ ) for Attendance and 2014 OSSLT Achievement*

Measure		1	2	3	4	5
1. Number of Instructional Lessons		--				
2. 2014 OSSLT Achievement	– R1	.212	--			
3. 2014 OSSLT Achievement	– R2	.176	.737**	--		
4. 2014 OSSLT Achievement	– R3	.215	.667*	.902**	--	
5. 2014 OSSLT Achievement	Total	.205	.806**	.984**	.945**	--

Note:  $N = 19$

Number of Instructional Lessons: the number of lessons attended by students; 0 to 8

2014 OSSLT: Individual scores achieved post instructional sessions; treatment & sub-treatment scores considered together

R1: Reading Skill 1: understanding explicit information: score 0 - 7 points

R2: Reading Skill 2: understanding implicit information: score 0 - 23 points

R3: Reading Skill 3: making connections from the reading to personal knowledge & experience: score 0 - 12 points

Total: Sum of R1 + R2 + R3 = 42 points

\* $p = .05$

\*\* $p = .000$

**Analysis of post-intervention achievement.** A comparison of 2010 OSSLT pretest and 2014 OSSLT achievement results using paired samples t-tests, for the purposes of comparing pre-treatment reading skills achievement to post-treatment achievement, was then conducted. This comparison provides an overall look at achievement differences before and after the balanced strategy program was implemented. As illustrated in Table 10, the t-test results for achievement indicated significance ( $p = .05$ ) between the overall reading skills scores prior to treatment ( $M_{2010OSSLTtotalR} = 20.3$ ,  $SD_{2010OSSLTtotalR} = 11.5$ ) and after treatment ( $M_{2014OSSLTtotalR} = 25.3$ ,  $SD_{2014OSSLTtotalR} = 9.5$ ), with overall achievement on average gaining five points (even though scores varied from 0 to 40 points of a possible perfect score of 42 points). The results of this comparison and the comparison of subtest results of reading skills R1, R2 and R3 are presented in Table 10.

Table 10

*Paired Samples T-Test Results for 2010 Pretest to 2014 OSSLT Achievement*

	M <sub>2010</sub>	M <sub>2014</sub>	t	df	Sig.	M <sub>difference</sub>	SE <sub>difference</sub>	95% CI
	OSSLT	OSSLT						
Reading Skill R1 (Score 0-7 pts)	3.32	4.63	-3.37	19	.003*	-0.28	0.79	[-2.14, -4.96]
Reading Skill R2 (Score 0-23 pts)	11.53	13.21	-1.57	19	.135	-0.66	2.58	[-3.95, .58]
Reading Skill R3 (Score 0-12 pts)	5.42	7.47	-3.78	19	.001*	0.27	1.39	[-3.19, -.91]
2014 OSSLT Achievement (Score 0-42 pts)	20.26	25.32	-3.00	19	.008*	0.67	4.50	[-8.60, -1.51]

Note:  $N = 19$

R1: Reading Skill 1: understanding explicit information

R2: Reading Skill 2: understanding implicit information

R3: Reading Skill 3: making connections from the reading to personal knowledge and experience

2010 OSSLT Pretest Achievement defined as Total of Reading Skills R1, R2 and R3

2014 OSSLT Achievement defined as Total of Reading Skills R1, R2 and R3

\* $p = .05$

As illustrated in Table 10, when broken down by individual reading skills R1, R2 and R3, these pre-intervention 2010 OSSLT and post-intervention 2014 OSSLT achievement scores showed significantly ( $p = .05$ ) improved achievement ( $n = 19$ ). As measured between the 2010 OSSLT pretest and the 2014 OSSLT, significant differences in achievement levels (measured as total number of correct questions) were indicated for reading skill R1 by t-test results from the pretest ( $M_{2010OSSLTR1} = 3.3$ ,  $SD_{2010OSSLTR1} = 1.9$ ) to the literacy test ( $M_{2014OSSLTR1} = 4.6$ ,  $SD_{2014OSSLTR1} = 1.7$ ). Additionally, significant differences in achievement levels for reading skill R3 were indicated by t-test results from the pretest ( $M_{2010OSSLTR3} = 5.4$ ,  $SD_{2010OSSLTR3} = 5.8$ ) to the literacy test ( $M_{2014OSSLTR3} = 7.5$ ,  $SD_{2014OSSLTR3} = 3.0$ ). These findings indicate that exposure to the balanced strategy literacy program regardless of placement in treatment or sub-treatment groupings improved student ability on the 2014 OSSLT to understand explicitly stated

information and ideas, and helped students to make connections between information and ideas in a reading selection and personal knowledge and experience. In support of hypothesis H<sub>3</sub> that predicted that balanced strategy literacy instruction would have no effect on R2 achievement as measured by the 2014 OSSLT these findings also indicated that the balanced strategy literacy program had no significant effect on student ability to understand implicitly stated information and ideas.

An overall comparison between 2010 OSSLT pretest and 2014 OSSLT achievement of reading skills R1, R2 and R3 using a Pearson correlation analysis was then conducted for the purposes of examining whether or not there was a positive relationship between the pre-intervention and post-intervention scores for the entire research study cohort. Pearson correlation analysis indicated a positive significant relationship ( $r = .770$ ,  $p = .000$ ,  $N = 19$ ) between 2010 OSSLT pretest and 2014 OSSLT overall scores, indicating that achievement on the 2010 OSSLT pretest was a good predictor of achievement on the 2014 OSSLT. Pearson correlation analysis of the individual reading skills R1, R2 and R3 achievement between the 2010 OSSLT pretest and the 2014 OSSLT each indicated a positive significant relationship ( $p = .000$ ) and are listed in Table 11, which indicated that achievement with each of the reading skills on the 2010 OSSLT pretest were a good prediction of achievement of reading skills on the 2014 OSSLT.

Table 11

*Correlation (Pearson  $r$ ) for 2010 OSSLT Pretest and 2014 OSSLT Achievement*

Measure		1	2	3	4	5	6
1. Pretest Achievement	– R1	--					
2. 2014 OSSLT Achievement	– R1	.540*	--				
3. Pretest Achievement	– R2	.651*	.769**	--			
4. 2014 OSSLT Achievement	– R2	.321	.737**	.735**	--		
5. Pretest Achievement	– R3	.662*	.741**	.858**	.679*	--	
6. 2014 OSSLT Achievement	– R3	.377	.667*	.736**	.902*	.753*	--

Note:  $N = 19$

Pretest: Individual scores achieved prior to instructional sessions on the 2010 OSSLT pretest

2014 OSSLT: Individual scores achieved post instructional sessions; treatment & sub-treatment scores considered together

R1: Reading Skill 1: understanding explicit information: score 0 - 7 points

R2: Reading Skill 2: understanding implicit information: score 0 - 23 points

R3: Reading Skill 3: making connections from the reading to personal knowledge & experience: score 0 - 12 points

\* $p = .05$

\*\* $p = .000$

### **Analysis of post-intervention achievement in relation to language-based variables. In**

Ontario, the Ministry of Education has identified numerous policies and procedures of best practices for educators when working with ESL students in relation to several underlying factors (Ministry of Education, 2007a). These policies and procedures outline a holistic approach for educators to acknowledge such underlying factors that could directly impact the successful acquisition of an OSSD by an ESL student, which included the extent to which a student had been educated or had gained literacy skills in their first language, successfully acquired foreign equivalency English credits, the extent of their experience and success with ESL course completion in Ontario, achievement of Ontario curriculum studied in English, the current level of study for an English compulsory course (at an age/peer appropriate level) and the extent to which the student was exposed outside the school day to the English language (reading, writing and



speaking). The Literacy and Numeracy Secretariat of Ontario had also noted that such underlying factors could have had a direct impact on the level of achievement of the OSSLT reading skills by ELL students (Cummins, 2007). These factors have been presented below in a progression from the acquisition of first language literacy (measure in credits) through to the extent of immersion in the English language in daily Ontario life outside of school, for the purposes of utilizing this information to provide insight into student readiness to complete the literacy diploma requirement. Several variables were discarded from model analysis when the extent of their individual effects on achievement did not show significance.

**Analysis of post-intervention achievement in relation to L1 education.** Since demonstration of reading skills in a student's second language (L2; English) could be a direct function of student ability to use the same skills in their first language, an exploration of data was conducted in order to examine the impact of number of years of L1 schooling and L1 credits earned by an ELL student on the achievement of reading skills R1, R2 and R3 in English (L2) on the 2014 OSSLT.

For the variable that describes the number of years of schooling in the student's first language, two sub-groups were created based on the OSSLT guideline of students being ready for literacy testing at the threshold of completion of grade 9. Therefore, 9 years was used to divide the students into two groups such that those students with less than 9 years of schooling were considered to have "Low L1" education while those with 9 years of schooling or more were considered to have "High L1" education. No significant differences in overall achievement of reading skills on the 2014 OSSLT were noted between those students who had 9 or more years of education in their first language ( $M_{2014OSSLT-L1Y \geq 9} = 24.4$ ,  $SD_{2014OSSLT-L1Y \geq 9} = 9.6$ ,  $(t(17) = .67$ ,  $p = .51$ , 95% C.I. (-7.26, 14.00)) ,  $n = 14$ ) and those students who had less than 9 years of

education in their first language ( $M_{2014OSSLT-L1Y<9} = 27.8$ ,  $SD_{2014OSSLT-L1Y<9} = 9.8$ ,  $n = 5$ ).

Similarly, correlation analysis indicated no significant relationships between the number of years of L1 education and achievement of individual reading skills R1, R2 and R3 on the 2014 OSSLT. It is important to acknowledge that both of these findings are representative of a small sample size and could potentially be different for larger sample sizes.

Since the acquisition of credits in any language can be attributed in part to being able to read in that language, a comparison of students who had earned L1 secondary school credits with those students who had not was then conducted using independent t-tests for the purposes of examining whether or not there was a relationship between credits earned in L1 and reading skills achievement scores on the 2014 OSSLT. No significant differences in overall achievement of reading skills R1, R2 and R3 on the 2014 OSSLT were noted between those students who had earned L1 secondary school credits ( $M_{2014OSSLT-L1Credits} = 22.1$ ,  $SD_{2014OSSLT-L1Credits} = 9.6$ ,  $t(17) = 1.84$ ,  $p = .08$ , 95% C.I. (-1.11, 16.43)),  $n = 11$ ) and those students who had not earned any L1 secondary school credits ( $M_{2014OSSLT-L1NOCredits} = 29.8$ ,  $SD_{2014OSSLT-L1NOCredits} = 7.9$ ,  $n = 8$ ). Pearson correlation analysis between the number of secondary school credits earned in L1 and 2014 OSSLT achievement of reading skill R1 showed significant, moderately strong negative correlation ( $r = -.582$ ,  $p = .05$ ,  $N = 19$ ), suggesting that a student's achievement of reading skill R1 (in English) is negatively affected by the number of secondary school credits earned in the student's first language.

**Analysis of post-intervention achievement in relation to foreign equivalency English credit accumulation.** If a student had previously studied English for course credit (i.e. courses that are completed in their home country prior to schooling in Ontario that can be counted towards completion of English compulsories for diploma in Ontario), then the development of

reading skills in English could be of benefit to the demonstration of reading skills on the literacy test. A comparison of students who had earned foreign equivalency English secondary school credits to those students who had not was then conducted using t-test analysis for the purposes of examining whether or not there was a relationship between the number of English foreign equivalency credits earned and overall reading skills R1, R2 and R3 achievement scores on the 2014 OSSLT. Overall achievement levels of reading skills R1, R2 and R3 on the 2014 OSSLT by students who had been granted foreign equivalency credits for English ( $M_{2014OSSLT-ENGPLN} = 28.5$ ,  $SD_{2014OSSLT-ENGPLN} = 7.3$ ,  $(t(17) = -3.61, p = .05, 95\% \text{ C.I. } (-23.72, -6.21))$ ,  $n = 15$ ) and those who have not ( $M_{2014OSSLT-noENGPLN} = 13.5$ ,  $SD_{2014OSSLT-noENGPLN} = 7.9$ ,  $n = 4$ ) showed significant differences in achievement scores, with overall achievement levels being on average 15 points higher for those students who had previously studied English for credit at the secondary school level outside of Canada (see Table 12). These results suggest that those students who have studied English for credit prior to schooling in Canada will have higher reading skills achievement than those students with no foreign equivalency credits in English.

Table 12

*Independent Samples T-Test Results for Foreign Equivalency English Credits on 2014 OSSLT**Achievement*

	M		t	df	Sig.	M <sub>difference</sub>	SE <sub>difference</sub>	95% CI
	M 2014OSSLT- ENGPLN	2014OSSLT- no ENGPLN						
Reading Skill R1 (Score 0-7 pts)	5.27	2.25	-4.75	17	.00**	-3.02	0.64	[-4.36, -1.68]
Reading Skill R2 (Score 0-23 pts)	14.73	7.50	-2.74	17	.01*	-7.23	2.64	[-12.80, -1.67]
Reading Skill R3 (Score 0-12 pts)	8.47	3.75	-3.72	17	.00*	-4.72	1.27	[-7.40, -2.04]
2014 OSSLT Achievement (Score 0-42 pts)	28.47	13.50	-3.61	17	.00*	-14.97	4.15	[-23.72, -6.21]

Note:  $N = 19$

Group 'ENGPLN' have foreign equivalency credits for English granted on their transcript, note:  $n = 15$

Group 'noENGPLN' do not have any foreign equivalency credits granted for English on their transcript, note:  $n = 4$

R1: Reading Skill 1: understanding explicit information

R2: Reading Skill 2: understanding implicit information

R3: Reading Skill 3: making connections from the reading to personal knowledge and experience

2014 OSSLT: Achievement defined as Total of Reading Skills R1, R2 and R3

\* $p = .05$

\*\* $p = .000$

Further independent samples t-test analyses were then conducted for the purposes of examining whether or not there was a relationship between the number of foreign equivalency credits earned in English courses and individual achievement of reading skills R1, R2 and R3 on the 2014 OSSLT. As summarized in Table 12, significant differences in achievement (measured as total number of correct questions,  $p = .05$ ) were observed for each of reading skills R1, R2 and R3 between the sub-group of students who had earned foreign equivalency credits in English and those who had not. These results suggest that ELL students who study English in a foreign

country prior to enrolment in an Ontario school have greater ability to understand explicitly stated ideas, implicitly stated ideas, and to connect ideas in a reading selection with personal knowledge and experience.

**Analysis of post-intervention achievement in relation to L2 credit accumulation.** If an ELL student has experience with schooling in English (L2), then they would have increased exposure to reading in English and would possibly demonstrate higher achievement with reading skills on the literacy test. A total of 12 credits earned in L2 were decided to be the threshold from which to compare ELL student achievement because schooling in Ontario would typically permit student acquisition of a minimum of 12 credits prior to the first attempt on the literacy test during the second semester of Grade 10 (see Table 1).

An independent samples t-test analysis was conducted for the purposes of examining whether or not there was a positive relationship between reading skills development in English (measured as total number of credits earned in English while in Ontario schools) and demonstration of overall and individualized achievement of reading skills R1, R2 and R3 on the 2014 OSSLT. No significant differences in results were observed between the overall demonstration of achievement of reading skills R1, R2 and R3 on the 2014 OSSLT by ELL students who had earned less than 12 credits in L2 ( $M_{2014OSSLT-L2<12} = 22.09$ ,  $S.D._{2014OSSLT-L2<12} = 9.58$ ,  $(t(17) = 1.84, p = .08, 95\% \text{ C.I. } (-1.11, 16.43))$ ,  $n = 11$ ) and those ELL students who had earned more than 12 credits in L2 ( $M_{2014OSSLT-L2\geq 12} = 29.75$ ,  $S.D._{2014OSSLT-L2\geq 12} = 7.96$ ,  $n = 8$ ). As summarized in Table 13, independent samples t-tests were then conducted for each of the individual reading skills R1, R2 and R3. Significant results were noted for students who had earned greater than 12 credits in L2 as a function of achievement results with reading skill R1 on the OSSLT ( $M_{2014OSSLTR1-L2\geq 12} = 5.63$ ,  $S.D._{2014OSSLTR1-L2\geq 12} = 1.30$ ,  $(t(17) = 2.51, p = .05, 95\% \text{ C.I. } (1.11, 10.15))$ ,  $n = 8$ ).

(.27, 3.16) ,  $n = 8$ ), suggesting that students with greater numbers of credits earned in L2 achieve on average a score almost 2 points higher on questions relating to reading skill R1 than students in this research study with less than 12 credits earned in L2 ( $M_{2014OSSLT-L2<12} = 3.91$ ,  $S.D._{2014OSSLT-L2<12} = 1.58$ ,  $n = 11$ ).

Table 13

*Independent Samples T-Test Results for L2 Credits on 2014 OSSLT Achievement*

	M	M						
	2014OSSLT- L2Credits <12	2014OSSLT- L2Credits ≥12	t	df	Sig.	M <sub>difference</sub>	SE	95% CI
							difference	
Reading Skill R1 (Score 0-7 pts)	3.91	5.63	2.51	17	.02*	-3.02	0.64	[-.27, 3.16]
Reading Skill R2 (Score 0-23 pts)	11.36	15.75	1.84	17	.08	-7.23	2.64	[-.66, 9.43]
Reading Skill R3 (Score 0-12 pts)	6.82	8.38	1.15	17	.27	-4.72	1.27	[-1.31, 4.43]
2014 OSSLT Achievement (Score 0-42 pts)	22.09	29.75	1.84	17	.08	-14.97	4.15	[-1.11, 16.43]

Note:  $N = 19$

Group 'L2Cdt<12' have earned less than 12 L2 credits, note:  $n = 11$

Group 'L2Cdt≥12' have earned 12 or more L2 credits, note:  $n = 8$

R1: Reading Skill 1: understanding explicit information

R2: Reading Skill 2: understanding implicit information

R3: Reading Skill 3: making connections from the reading to personal knowledge and experience

2014 OSSLT: Achievement defined as Total of Reading Skills R1, R2 and R3

\* $p = .05$

A whole group comparison between L2 credits earned and 2014 OSSLT achievement using a Pearson correlation analysis was then conducted for the purposes of examining whether or not there was a positive relationship between achievement scores with the reading skills on the 2014 OSSLT and the number of L2 credits earned in secondary school. The statistical analysis showed no significant relationship between overall achievement of reading skills R1, R2 and R3 on the 2014 OSSLT and the number of L2 credits earned in secondary school ( $r = .296$ ,  $p = .218$ ,  $N = 19$ ). These results are summarized in Table 14. When broken down by individual reading skills R1, R2 and R3, the post-intervention achievement on the 2014 OSSLT (measured as total

number of correct questions) was not significantly correlated with the number of L2 credits earned prior to testing (measured as total number of full credits earned). Achievement with 2014 OSSLT R1 approached significance ( $r = .441, p = .059, N = 19$ ) in relation to L2 credits earned suggesting that credits achieved in Ontario secondary school for diploma could be of value to ELL student ability to understand explicitly stated ideas and information from a reading selection.



Table 14

*Correlation (Pearson  $r$ ) for L2 Credits and 2014 OSSLT Achievement*

Measure		1	2	3	4	5
1. Number of L2 Credits		--				
2. 2014 OSSLT Achievement	– R1	.441	--			
3. 2014 OSSLT Achievement	– R2	.270	.737**	--		
4. 2014 OSSLT Achievement	– R3	.207	.667*	.902**	--	
5. 2014 OSSLT Achievement	Total	.296	.806**	.984**	.945**	--

Note:  $N = 19$ 

Number of L2 credits: the number of credits earned in secondary school; 0 to 20

2014 OSSLT: Individual scores achieved post instructional sessions; treatment &amp; sub-treatment scores considered together

R1: Reading Skill 1: understanding explicit information: score 0 - 7 points

R2: Reading Skill 2: understanding implicit information: score 0 - 23 points

R3: Reading Skill 3: making connections from the reading to personal knowledge &amp; experience: score 0 - 12 points

Total: Sum of R1 + R2 + R3 = 42 points

\*\* $p = .000$ **Analysis of post-intervention achievement in relation to ESL course experience.**

Through exposure to and development of English literacy skills from ESL-A through to ESL-E, students progress in their competencies with reading and writing in English. Since course exposure to the development of reading skills in English would be valuable in aiding any student to demonstrate English reading skills achievement on the OSSLT, data on ESL course completion (ESL-E earned for credit prior to the 2014 OSSLT) was reviewed in light of student achievement of reading skills on the literacy test.

Using an independent samples t-test, an analysis was conducted for the purposes of examining whether or not there was a positive relationship between the completion of English as a Second Language course programming (ESL-E earned for credit) and reading skills achievement on the literacy test. T-test analyses of overall achievement levels of reading skills

R1, R2 and R3 on the 2014 OSSLT by students who had earned a credit in ESL-E prior to the semester in which the literacy test was written ( $M_{2014OSSLT-NOESL} = 30.3$ ,  $SD_{2014OSSLT-NOESL} = 6.4$ ,  $(t(17) = -4.00, p = .001, 95\% \text{ C.I. } (-20.44, -6.34))$ ,  $n = 12$ ) and those who were still enrolled in ESL programming at the time of the literacy test ( $M_{2014OSSLT-ESL} = 16.9$ ,  $SD_{2014OSSLT-ESL} = 8.1$ ,  $n = 7$ ) showed significant differences in achievement scores, with overall achievement levels being on average 13 points higher for those students who were not currently enrolled in ESL programming. When broken down by individual reading skills R1, R2 and R3, these achievement levels on the 2014 OSSLT were also significant between the sub-group of students who had ESL on their timetable at the time of testing ( $n = 7$ ) and those who did not ( $n = 12$ ), summarized in Table 15.

Table 15

*Independent Samples T-Test Results for ESL Courses on 2014 OSSLT Achievement*

	M	M						
	2014OSSLT	2014OSSLT-						
	-ESL	NO ESL	t	df	Sig.	M <sub>difference</sub>	SE <sub>difference</sub>	95% CI
Reading Skill R1 (Score 0-7 pts)	3.29	5.42	-3.35	17	.004*	-2.13	0.64	[-3.47, -.79]
Reading Skill R2 (Score 0-23 pts)	8.71	15.83	-3.48	17	.003*	-7.12	2.05	[-11.44, -2.80]
Reading Skill R3 (Score 0-12 pts)	4.86	9.00	-3.99	17	.001**	-4.14	1.04	[-6.33, -1.96]
2014 OSSLT Achievement (Score 0-42 pts)	16.86	30.25	-4.01	17	.001**	-13.39	3.34	[-20.44, -6.34]

Note:  $N = 19$

Group 'ESL' had ESL courses on their timetable at the time of the OSSLT [one of ESLA, B, C, D or E], note:  $n = 7$

Group 'NOESL' did not have ESL courses on their timetable at the time of the OSSLT, note:  $n = 12$

R1: Reading Skill 1: understanding explicit information

R2: Reading Skill 2: understanding implicit information

R3: Reading Skill 3: making connections from the reading to personal knowledge and experience

2014 OSSLT: Achievement defined as Total of Reading Skills R1, R2 and R3

\* $p = .05$

\*\* $p = .001$

### **Analysis of post-intervention achievement in relation to current level of English**

**study.** One of the key criteria used to identify if a student is ready to write the OSSLT is the

completion of Grade 9 compulsory credit in English. A t-test was used for the purposes of

examining the completion of a Grade 9 English compulsory credit and reading skills

achievement on the literacy test. Overall achievement levels of the reading skills on the 2014

OSSLT by the students who were studying at a minimum level of Grade 9 English on their

timetable at the time of testing showed significant differences in achievement scores ( $M_{2014OSSLT-}$

$ENGILPD = 30.25$ ,  $SD_{2014OSSLT-ENGILPD} = 6.4$ ,  $(t(17) = -4.01, p = .001, 95\% \text{ C.I. } (-20.44, -6.34))$ ,  $n = 12$ ) as opposed to those who were not ( $M_{2014OSSLT-BELOWENGILPD} = 16.86$ ,  $SD_{2014OSSLT-BELOWENGILPD} = 8.1$ ,  $n = 7$ ) with overall achievement levels being on average 13 points higher for those students who had successfully completed English at the grade 9 level of the Ontario curriculum (minimum). When broken down by individual reading skills R1, R2 and R3, there were statistically significant differences in achievement levels on the 2014 OSSLT between the subgroup of students who had completed English compulsory credits at the minimum level of Grade 9 at the time of testing and those who did not. These results are summarized in Table 16.

Table 16

*Independent Samples T-Test Results for Grade 9 English on 2014 OSSLT Achievement*

	M		t	df	Sig.	M <sub>difference</sub>	SE <sub>difference</sub>	95% CI
	M	2014OSSLT-						
	2014OSSLT- ENG1LPD	BELOW ENG1LPD						
Reading Skill R1 (Score 0-7 pts)	5.42	3.29	-3.35	17	.004*	-2.13	0.64	[-3.47, -.79]
Reading Skill R2 (Score 0-23 pts)	15.83	8.71	-3.48	17	.003*	-7.12	2.05	[-11.44, -2.80]
Reading Skill R3 (Score 0-12 pts)	9.00	4.86	-3.99	17	.001**	-4.14	1.04	[-6.33, -1.96]
2014 OSSLT Achievement (Score 0-42 pts)	30.25	16.86	-4.01	17	.001**	-13.39	3.34	[-20.44, -6.34]

Note:  $N = 19$

Group 'ENG1LPD' have earned a grade 9 compulsory English credit in any one of the three pathways, note:  $n = 12$

Group 'BELOWENG1LPD' have not earned a grade 9 compulsory English credit, note:  $n = 7$

R1: Reading Skill 1: understanding explicit information

R2: Reading Skill 2: understanding implicit information

R3: Reading Skill 3: making connections from the reading to personal knowledge and experience

2014 OSSLT: Achievement defined as Total of Reading Skills R1, R2 and R3

\* $p = .05$

\*\* $p = .001$

### **Analysis of post-intervention achievement in relation to English language exposure**

**outside of school.** Exposure to the English language was defined based on responses to the student survey that included questions regarding speaking, reading and writing English outside of the school day, with a separation into two groups based on a minimum exposure level of an arbitrary 10 points (half way on the scale).

A whole group comparison between exposure to L2 literacy skills outside of the school day and 2014 OSSLT achievement using a Pearson correlation analysis was then conducted for

the purposes of examining whether or not there was a positive relationship between achievement scores with the reading skills on the 2014 OSSLT and exposure to L2 literacy skills outside of academic classes. The statistical analysis showed significance between overall achievement of reading skills R1, R2 and R3 on the 2014 OSSLT and the weekly exposure to L2 literacy skills outside of secondary school classes ( $r = .557, p = .013, N = 19$ ). These results are summarized in Table 17. Notably, when broken down by individual reading skills R1, R2 and R3, the post-intervention achievement on the 2014 OSSLT (measured as total number of correct questions) was significantly correlated with the weekly exposure of L2 literacy skills (measured as total number of incidences with L2 reading, writing or speaking). 2014 OSSLT R2 achievement was significant ( $r = .563, p = .05, N = 20$ ) in relation to weekly exposure of L2 literacy skills outside of school, as was achievement with 2014 OSSLT R3 ( $r = .525, p = .05, N = 20$ ), suggesting that the more ELL students read, write and speak in L2 outside of their regular classes, the greater their ability to understand implicitly stated ideas in a reading selection and to make connections between ideas in a reading selection and personal knowledge and experience.

Table 17

*Correlation (Pearson  $r$ ) for L2 Literacy Exposure and 2014 OSSLT Achievement*

Measure		1	2	3	4	5
1. Exposure to L2 Literacy Skills		--				
2. 2014 OSSLT Achievement	– R1	.401	--			
3. 2014 OSSLT Achievement	– R2	.563*	.737**	--		
4. 2014 OSSLT Achievement	– R3	.525*	.667*	.902**	--	
5. 2014 OSSLT Achievement	Total	.557*	.806**	.984**	.945**	--

Note:  $N = 19$

Exposure to L2 Literacy Skills: the number of incidences of exposure to English reading, writing or speaking outside of regularly-scheduled classes in a week; 0 to 20

2014 OSSLT: Individual scores achieved post instructional sessions; treatment & sub-treatment scores considered together

R1: Reading Skill 1: understanding explicit information: score 0 - 7 points

R2: Reading Skill 2: understanding implicit information: score 0 - 23 points

R3: Reading Skill 3: making connections from the reading to personal knowledge & experience: score 0 - 12 points

Total: Sum of R1 + R2 + R3 = 42 points

\* $p = .05$

\*\* $p = .000$

### Multiple Regression Analyses.

**Tolerance & multi-collinearity.** The tolerance statistics from Table 18 indicate that the inter-correlation between the independent variable for this instance were below .70 demonstrating no issues with multi-collinearity.

Table 18

*Collinearity Statistics for the 2014 OSSLT*

	Coefficients		Beta	t	Sig.	95.0% Confidence		Collinearity	
	Unstandardized	Standardized				Interval for B		Statistics	
	B	SE				Lower	Upper	Tolerance	VIF
(Constant)	5.47	5.20		1.05	.310	-5.679	16.622		
ENG Level - current	4.48	1.19	.990	3.76	.002*	1.924	7.030	.46	2.19
ENGPLN Credits	-2.80	2.22	-.339	-1.26	.228	-7.567	1.964	.44	2.28
Total Credits L2	.13	.36	.095	.363	.722	-.642	.904	.46	2.17
Standardized Testing	-2.77	2.52	-.253	-1.10	.290	-8.161	2.628	.60	1.67

Note:  $N=19$

Dependent Variable: 2014 OSSLT Total Points for Reading Skills R1, R2 & R3, 0 to 42 points

$R^2 = .56$ , \* $p = .05$

### Multiple regression analysis of reading skills R1, R2 & R3 post-intervention

**achievement on the 2014 OSSLT.** Using multiple regression analysis (forced entry method) an inquiry was conducted to ascertain which of the independent variables were most suitable for inclusion into a model of prediction for successful demonstration of reading skills R1, R2 and R3 on the 2014 OSSLT. Analysis yielded a strong positive relationship ( $r_{T/2014OSSLT} = .75$ ,  $p = .017$ ) between the successful demonstration of the three reading skills R1, R2 and R3 and the independent variables of “current level of course study for English”, “number of foreign equivalency English credits”, “number of credits completed in L2” and “previous experience with standardized testing”. As shown in Table 18, the current level of English course study data in combination with the number of foreign equivalency English credits earned, credits earned in L2 and experience with standardized testing significantly predicted achievement scores of reading skills R1, R2 and R3 on the 2014 OSSLT,  $\beta = 5.5$   $t(4) = 1.05$ ,  $p = .017$ . Statistical significance was also established with this analysis showing that we were able to account for 75.0 % of the variance in the successful demonstration of the combined reading skills R1, R2 and



R3 on the OSSLT based on the information we had regarding the current level of English course study, acquired foreign credit equivalencies in English courses, total credits earned in L2 and previous experience with standardized testing.

When using overall reading skills achievement on the OSSLT, the multiple regression indicated that knowing this made a significantly better prediction about student achievement on all three reading skills R1, R2 and R3 ( $R^2 = .56$ ,  $F_{\text{OSSLT}}(4, 14) = 4.39$ ,  $p = .017$ ) than if we only had information about the mean achievement level from previous scores of ELL students on these reading skills on the OSSLT. ELL students who had earned foreign equivalency credits in English courses, who were currently studying at higher levels of English compulsory courses (Grade 9 or higher) with experience in standardized testing and had earned secondary school credits in L2, on average demonstrated significantly higher overall achievement on the reading skills component of the 2014 OSSLT than did their non-ELL peers who did not. This change is statistically significant ( $t(4) = 1.05$ ,  $p = .017$ ), indicating that the b value for the current level of English study, foreign equivalency English credits, L2 credits earned and experience with standardized testing were significantly different from 0 and therefore made a significant contribution to the prediction of ELL student achievement on all three reading skills on the 2014 OSSLT (see Table 18). Taken together, this information suggests a good overall fit for the proposed model.

**Summary of results.** The main purpose of this research was to examine the effects of a balanced strategy literacy program on the overall achievement of reading skills R1, R2 and R3 on the 2014 OSSLT for FTE and PE ELL students. Evidence of pre-treatment equivalency between treatment and sub-treatment groups was established. However, following intervention,

there was no significant difference between sub-groups in their achievement on the 2014 OSSLT.

A number of other variables were examined in order to further our understanding of factors that impact achievement on the 2014 OSSLT. First, analysis suggested that attendance at the balanced strategy literacy program had no significant impact on 2014 OSSLT achievement. However, pretest scores were found to be a good predictor of achievement on the 2014 OSSLT. Overall student achievement, regardless of treatment, showed improved R1 and R3 achievement from the 2010 OSSLT pretest to the 2014 OSSLT. Notably, language-based analyses suggested that the more credits an ELL student had earned in their first language the lower their achievement scores for reading skill R1 on the 2014 OSSLT. However, further analyses suggested that if an ELL student had studied English at the secondary school level in a foreign country before studying at the secondary school level in Ontario, overall achievement of reading skills R1, R2 and R3 on the 2014 OSSLT were significantly higher than for those ELL students who had not studied English prior to schooling in Ontario. Analyses suggested that for ELL students who had achieved at the minimum level of half of the Grade 10 level curriculum had higher achievement with reading skill R1 on the 2014 OSSLT. For ELL students who concurrently studied ESL courses at the time of the 2014 OSSLT, analysis suggested an overall lower achievement with reading skills R1, R2 and R3 than those students who were no longer in need of ESL support courses. Analysis also suggested that for ELL students with greater exposure to English Language skills outside of the regular school day achievement levels of reading skills R1, R2 and R3 on the 2014 OSSLT were greater than for those students with lesser exposure to English Language skills outside of the school day. Therefore these results provided evidence for the key independent variables that had the greatest effect on student achievement of

reading skills R1, R2 and R3 on the 2014 OSSLT which included the current level of English being studied, the number of foreign equivalency credits completed in the English Language, the total number of credits earned in L2 at the level of Ontario secondary school and previous experience with standardized testing in any language. An exploration of these findings will be further developed with implications for ELL students within Ontario secondary school settings.

## Chapter 5 Discussion

In an era of provincial mandates calling for school improvement planning to close the literacy achievement gap between ELL students and their non-ELL peers, the exploration of strategies and interventions to improve reading skills become worthy of further investigation. Reading skills are a central to the successful demonstration of the literacy diploma requirement for secondary school graduation in Ontario. The main purpose of this research was to examine the effects of a balanced strategy literacy program on the overall achievement of reading skills on the 2014 Ontario Secondary School Literacy Test (OSSLT; a diploma requirement) for First Time Eligible (FTE) and Previously Eligible (PE) English Language Learners (ELLs). In order to test the hypotheses H<sub>1</sub>, H<sub>2</sub>, H<sub>3</sub> and H<sub>4</sub>, overall achievement results were compared between the treatment group and the sub-treatment group for the three reading skills R1, R2 and R3 on the 2010 OSSLT pretest, the 2009 OSSLT posttest and the 2014 OSSLT. This discussion will address the impact of balanced strategy literacy instruction on overall reading skills achievement in reference to each of the hypotheses. Limitations of this study will then be reviewed. Following this, a discussion of the results of post-intervention achievement in relation to several language-based variables including L1 education, foreign equivalency English credit accumulation, L2 credit accumulation, ESL course experience and current level of English study, will be explored. Finally, applications of findings and recommendations for ELL preparation for literacy diploma requirements will be presented.

### **ELL Sub-Group Achievement of Reading Skills.**

**2010 OSSLT pretest baseline.** As expected, comparisons of key descriptive factors related to the treatment and sub-treatment group indicated no significant difference between groups on any of the background variables, including literacy development in their first

language, foreign equivalency English credits, English language skills development, English course proficiency, experience with standardized testing and program attendance during the course of this research study. Furthermore, there were no statistically significant differences between the two groups in the mean overall achievement of reading skills R1, R2 and R3 on the 2010 OSSLT pretest. On average, ELL student achievement scores for the treatment and sub-treatment groups were within two points of each other (even though scores varied from 0 to 35 points out of a possible perfect score of 42 points). Homogeneity with achievement of each of the reading skills R1, R2 and R3 was also found between the treatment and sub-treatment groups of ELL students (with variances between means reaching a maximum non-significant difference of 1.2 points). The implications of these findings are that this homogeneity in sub-group composition provides a solid foundational basis to support that any differences between group post intervention likely stem from the intervention itself.

**2009 OSSLT posttest sub-group achievement.** Following eight instructional balanced strategy literacy sessions, an examination of 2009 OSSLT posttest achievement of the treatment group (use of L1 and L2 strategies) and sub-treatment group (use of L2-only strategies) were analyzed for the effectiveness of using L1 in tandem with L2 as a method of ELL student preparation of L2 reading skills demonstration. This comparison provides an overall look at ELL student achievement differences before and after the balanced strategy literacy program since research has suggested that ELL students would benefit in understanding explicitly stated information and ideas through literacy instructional development (Cheng, 2012; Cheng, Klinger, et al., 2007; Education Quality and Accountability Office, 2010e; Wurr, 2003; Zheng et al., 2007). The implementation of an instructional program that included L1 in tandem with L2 balanced literacy strategies was expected to produce higher reading skills scores based on the

core predicates of the theory of the construction-integration model of reading comprehension (Kintsch, 1988) as a direct application of social-cognitive constructivist theory. That is, the ability of a student to create meaning from core understandings in any language should be helpful to the overall creation of reading comprehension in a second language, particularly within a learning environment that supports language development through peer interaction from a similar language background.

Hypothesis H<sub>2</sub> predicted that students who received balanced strategy literacy instruction in both L1 and L2 would have higher R1 achievement scores in comparison with students who received balanced strategy literacy instruction in L2 only. In contrast to hypothesis H<sub>2</sub>, there was no statistically significant difference. In fact, the mean difference in the overall score on reading skill R1 was within 0.2 points between the treatment group and the sub-treatment group (of a possible maximum 7 points), as measured by the 2009 OSSLT posttest. These results suggest that the use of literacy strategies in both L1 and L2 did not significantly improve reading comprehension with the explicit understanding of various types of text. In fact, those students who utilized only L2 literacy strategies experienced equally as effective R1 achievement scores. The implications of these findings suggest that student exposure to either a mixture of L1 and L2 balanced literacy strategies or to L2-only balanced literacy strategies resulted in similar achievement of reading skills scores. These results indicate that the treatment method used did not have a significant effect on overall ELL student achievement of reading skill R1 on the 2009 OSSLT posttest. These findings are contrary to the findings of Cheng (2012) wherein L1 literacy skills significantly impacted L2 language acquisition.

The resultant similar achievement in reading skill R1 scores of the treatment and sub-treatment groups on the 2009 OSSLT could partially be explained by the inability of ELL students to develop an explicit understanding of various texts. Of interest is the observation that was made during the research study regarding students from the treatment group who were practicing reading skill R1 and could not vocalize L1 vocabulary equivalent to the new L2 vocabulary they were learning. There were several situational activities described within narrative stories that were beyond the experience of these students leading to incomplete comprehension as a result. Several of the first languages in this treatment group, including Philippino, Khmer, and Mandarin had no specialized words to describe various animals and insects native to Ontario. Notably, the inability of students to relate to various animals and their erratic behaviour (e.g., squirrels jumping between trees, polar bears traveling on ice flows), various insect habitats (e.g., stick bugs in trees, damselflies on lakes), or various geographic features of the province (e.g., the escarpment, the great lakes) created gaps in their explicit understanding of written text. The building of L2 reading comprehension skills with these students was characterized by interruptions marked by extensive chatter with their peers in a scattered effort to create meaning from such foreign concepts of which they had no first hand experiential knowledge. Therefore, if ELL students in the treatment group could not relate L1 vocabulary to that of the L2 text, then the implementation of L1 instructional strategies to improve L2 literacy demonstrations of reading skill R1 on the 2009 OSSLT would then be similar to those students who only used L2 strategies.

Hypothesis H<sub>3</sub> predicted that balanced strategy literacy instruction would have no effect on R2 achievement since the ability to develop the implicit understanding of narrative text requires a longer period of time than this research study provided. There is evidence within the

research that has suggested that the understanding of implicitly stated information and ideas can be difficult for ELL learners and required a longer infusion of skills development over time (five to seven years; Cheng, Klinger, et al., 2007; Kim & Jang, 2009) than this short and intensive program provided in eight hours of explicit instruction coupled with ten hours of independent homework. In support of hypothesis H<sub>3</sub>, mean student achievement of reading skill R2 showed a non-significant difference of 0.7 points between the treatment group and the sub-treatment group (of a possible maximum 23 points), as measured by the 2009 OSSLT posttest. These results suggest that a longer period of time is required for the development of the implicit understanding of narrative text, in keeping with current research.

The lack of significant improvement in the implicit understanding of ideas from L2 texts with reading skill R3 may perhaps also be a result of the interaction between the experiences of the student with the same type of text in their L1. Direct observations of the ELL students within the research study showed that some students had no experience with reading newspapers, others were not familiar with fictional narratives (especially those with humour), while others had no prior need to access meaning from graphic text. The individualized experiences of students with various written texts prior to immersion into the Ontario education system could profoundly impact their ability to successfully draw inferences in meaning. Therefore, the ability of a student to make inferences successfully not only relies on their L2 proficiency but with their familiarity with the nuances of word usage within text types.

Hypothesis H<sub>4</sub> predicted that students who received balanced strategy literacy instruction in both L1 and L2 would have higher R3 achievement scores in comparison with students who received balanced strategy literacy instruction in L2 only. In contrast to hypothesis H<sub>4</sub>, there was no statistically significant difference. In fact, the mean difference in the overall score on reading



skill R3 was within 1.2 points between the treatment group and the sub-treatment group (of a possible maximum of 12 points), as measured by the 2009 OSSLT posttest. The implications of these findings suggest that student exposure to either a mixture of L1 and L2 balanced literacy strategies or to L2-only balanced literacy strategies resulted in similar achievement of reading skills scores. These results indicate that the treatment method used did not have a significant effect on overall ELL student achievement of reading skills R3 on the 2009 OSSLT posttest. These findings are contrary to the findings of Cheng (2012) wherein L1 literacy skills significantly impacted L2 language acquisition.

The resultant similar achievement in reading skill R3 scores of the treatment and sub-treatment groups on the 2009 OSSLT could partially be explained by the inability of ELL students to extend their understanding of text material to their personal knowledge and experience. Of interest is the observation that was made during the research study regarding students from the treatment group who were practicing reading skill R3 and could not relate to the L2 situational and cultural experiences of written text materials. There were several situational activities described within narrative stories that were beyond the cultural experience of these students that lead to incomplete comprehension as a result. Notably, students were directly observed questioning the instructors for more information regarding various plotlines with characters from narrative texts that were rooted in Ontario-specific culture. Students struggled with understanding and applying that understanding to their personal experience with such cultural rituals as hobbies (e.g., free climbing on rock, hiking along cliffs), vacations (e.g., camping in national parks, canoeing rivers with rapids) or traditions (e.g., skating on the Rideau Canal, pouring maple syrup on pancakes). Some of the situations presented within the text material were so far removed from the personal and cultural experience of these students that

there was no equivalency found to which they could relate. Therefore, if ELL students in the treatment group could not relate their L1 cultural experiences to the L2 text, then the implementation of L1 instructional strategies to improve L2 literacy demonstrations of reading skill R3 on the 2009 OSSLT would then be similar to those students who only used L2 strategies.

**2014 OSSLT sub-group achievement.** Following individualized descriptive feedback about the 2009 posttest achievement results, ELL students had the opportunity to prepare for the 2014 OSSLT on their own. Achievement of reading skills on the 2014 OSSLT by the treatment group (use of L1 and L2 strategies) and sub-treatment group (use of L2-only strategies) were analyzed for the effectiveness of the balanced strategy instructional programming and for ELL student individualized preparation prior to the literacy test. Similar to the predictions with the 2009 OSSLT posttest, the implementation of a program that included L1 balanced strategy instruction in tandem with L2 balanced literacy strategies was expected to produce higher reading skills scores, particularly since ELL students in both the treatment and sub-treatment groups had received descriptive feedback on their R1 and R3 reading skills performance and were given several days to further prepare of their own accord.

Hypothesis H<sub>2</sub> predicted that students who received balanced strategy literacy instruction in both L1 and L2 would have higher R1 achievement scores in comparison with students who received balanced strategy literacy instruction in L2 only. In contrast to hypothesis H<sub>2</sub>, there was no statistically significant difference. In fact, the mean difference in the overall score on reading skill R1 was within 0.3 points between the treatment group and the sub-treatment group (of a possible 7 point maximum). These results suggest that the use of literacy strategies in both L1 and L2 did not significantly improve reading comprehension with the explicit understanding of various types of text. In fact, those students who utilized only L2 literacy strategies experienced

equally as effective R1 achievement scores. The implications of these findings suggest that student exposure to either a mixture of L1 and L2 balanced literacy strategies or to L2-only balanced literacy strategies resulted in similar achievement of reading skills scores. These results indicate that the treatment method used did not have a significant effect on overall ELL student achievement of reading skill R1 on the 2014 OSSLT. These findings are contrary to the findings of Cheng (2012) wherein L1 literacy skills significantly impacted L2 language acquisition.

As previously noted, since there was no direct instruction between the 2009 OSSLT posttest and the 2014 OSSLT, it remains possible that the lack of significant improvement in reading skill R1 demonstrations by the treatment group could be the result of inconsistencies between L1 and L2 equivalencies in vocabulary.

Hypothesis H<sub>3</sub> predicted that balanced strategy literacy instruction would have no effect on R2 achievement in this program since the ability to develop the implicit understanding of narrative text requires a longer period of time than this research study provided (recommended minimum of five years; Kim & Jang, 2009). In support of hypothesis H<sub>3</sub>, there was no statistically significant difference. In fact, the mean difference in the overall score on reading skill R2 was within 0.7 points between the treatment group and the sub-treatment group (of a possible maximum 23 points), as measured by the 2014 OSSLT posttest. These results suggest that a longer period of time is required for the development of the implicit understanding of narrative text, in keeping with current research.

Hypothesis H<sub>4</sub> predicted that students who received balanced strategy literacy instruction in both L1 and L2 will have higher R3 achievement scores in comparison with students who received balanced strategy literacy instruction in L2 only. In contrast to hypothesis H<sub>4</sub>, there was no statistically significant difference. In fact, the mean difference in the overall score on reading

skill R3 was within 0.3 points between the treatment group and the sub-treatment group (of a possible 12 point maximum). The implications of these findings suggest that student exposure to either a mixture of L1 and L2 balanced literacy strategies or to L2-only balanced literacy strategies resulted in similar achievement of reading skills scores. These results indicate that the treatment method used did not have a significant effect on overall ELL student achievement of reading skills R3 on the 2014 OSSLT. These findings are contrary to the findings of Cheng (2012) wherein L1 literacy skills significantly impacted L2 language acquisition.

The mean overall achievement on the 2014 OSSLT by the treatment group and sub-treatment group were within one point of each other (even though scores varied from 3 to 40 points of a possible perfect score of 42 points). These equivalencies in overall achievement between the treatment and sub-treatment groups occurred even though the composition of the treatment group changed due to the removal of one student who no longer sufficiently demonstrated the aforementioned eligibility criteria. These findings suggest that student exposure to either a mixture of L1 and L2 balanced literacy strategies or to L2-only balanced literacy strategies resulted in similar achievement of reading skill R3 scores on the 2014 OSSLT, regardless of language used for instruction. The implications of these findings are that the treatment method used did not have a significant effect on overall ELL student achievement of reading skill R3 on the 2014 OSSLT. These findings are contradictory to the instructional recommendations by Rajabi (2009) which include the provision for a variety of reading comprehension strategies to build student literacy rather than a singular approach. In fact, McElvain (2010) found that the inclusion of metacognitive reading strategies significantly improved L2 text comprehension with ELL students.

As previously noted, since there was no direct instruction between the 2009 OSSLT posttest and the 2014 OSSLT, it remains possible that lack of significant gains in reading skill R3 demonstrations by the treatment group could be the result of inconsistencies between L1 and L2 cultural knowledge and experiences.

**2014 OSSLT full cohort achievement.** A comparison of 2010 OSSLT pretest and 2014 OSSLT achievement results for the purposes of comparing pre-treatment reading skills achievement to post-treatment achievement for the whole research cohort was conducted. This comparison provides an overall look at achievement differences before and after the balanced strategy literacy intervention, since based on research it has been suggested that both groups of ELL students would be expected to benefit in understanding explicitly stated information and ideas through literacy instructional development (Cheng, 2012; Cheng, Klinger, et al., 2007; Education Quality and Accountability Office, 2010e; Wurr, 2003; Zheng et al., 2007). All students were expected to have improved reading comprehension based on exposure to research-proven instructional balanced literacy strategies. Therefore, it would be reasonable to expect that ELL student achievement with the explicit understanding of reading skills and their ability to make meaningful connections to their own experience would improve following the invested time of attending both types of balanced strategy literacy sessions. Therefore, this researcher was interested in comparing pre- and post-intervention achievement on reading skills R1, R2 and R3.

The results of the statistical analysis indicated that the mean scores on both the post-intervention R1 and R3 skills demonstrations were significantly higher than the pre-intervention mean scores on the R1 and R3 skills (a difference of 2 points on both tests). These research study findings are in keeping with those of Cheng, Klinger, et al. (2007) who found that ELL student reading comprehension with narrative texts improved when cultural and contextual connections

are intentionally instructed. The emphasis on a collaborative learning environment for ELL students to deepen their inquiry during L2 language acquisition has also been found to be helpful according to Wurr (2003). These similarities in results suggest that the intentional instruction of balanced literacy strategies can help ELL students improve their demonstration of explicit understandings of written text as well as improve their application of this understanding to their own personal experience.

Since the understanding of implicitly stated information and ideas can be difficult for ELL learners and required a longer infusion of skills development over time (five to seven years; Cheng, Klinger, et al., 2007; Kim & Jang, 2009), hypothesis H<sub>3</sub> indicated that balanced strategy literacy instruction would have no effect on R2 achievement following exposure to balanced strategy literacy programming. In support of hypothesis H<sub>3</sub>, there was no statistically significant difference in mean scores for reading skill R2 on the 2010 OSSLT pretest and the 2014 OSSLT mean scores were within 2 points of each other (out of a possible 23 points). Particularly, the nuances of understanding the indirect meaning of text improved through the explicit study of vocabulary. Combined with the findings of Kim and Jang (2009), it becomes apparent that ELL students require a minimum of 5 to 7 years in order to become proficient when demonstrating the indirect understanding of narrative text.

When considering the full cohort, overall reading skills achievement results indicate a statistically significant difference between scores prior to and after the implementation of the balanced strategy literacy program, with an overall mean achievement gain of five points (even though scores varied from 0 to 40 points of a possible perfect score of 42 points). Results showed that from the time students began participation in the research study and attended regular school day classes to the time they wrote the 2014 OSSLT, their ability to understand explicitly stated

ideas and information and then relate this understanding to personal knowledge and experience significantly improved. The implications of these findings are that the invested time in reading skills development through participation in the balanced strategy literacy program or through the regular classroom improved overall ELL student achievement on the 2014 OSSLT. The recommendation for literacy instruction with ELL students as an approach that emphasizes the holistic nature of acquiring overall competence with reading skills has been similarly noted by Zheng et al. (2007).

In this research study it remains undetermined as to what specifically accounted for the cohort increased reading skills achievement. This suggests that it would be prudent for students to practice their literacy skills and obtain descriptive feedback if they would like to significantly improve their reading skills demonstration with R1 and R3 prior to attempting the literacy diploma requirement (since these techniques were implemented instructionally both within regular classes and in the after school balanced strategy literacy program). Since any one specific skill or particular skills combination was not identified in this research study, student exposure to balanced literacy programming (see Appendix I) that provides opportunities for descriptive feedback regarding student demonstration of the explicit understanding of a variety of texts and the application of that understanding to their personal experience is recommended for overall literacy skills improvement.

**2014 OSSLT cohort achievement and program attendance.** A comparison of balanced strategy literacy program attendance and 2014 OSSLT cohort achievement results for all research study participants was then conducted to provide an overall look at achievement differences as a function of the number of balanced strategy literacy sessions attended. The first hypothesis stemmed from previous research that suggested students with instructional exposure

to balanced strategy instruction would benefit in literacy skills development (Booth Olson et al., 2010; Chau et al., 2012; Eshiet, 2012; Kim & Jang, 2009; Klinger et al., 2006; Li & Zhang, 2004; Vygotsky, 1978).

Therefore, hypothesis H<sub>1</sub> predicted that higher levels of attendance in the program would be associated with higher scores on R1, R2 and R3 achievement, assuming there was no minimum/maximum threshold with reading skills development. Results showed that when broken down by individual reading skills R1, R2 and R3, the post-intervention achievement on the 2014 OSSLT was not significantly correlated with the number of balanced strategy literacy sessions attended. These results suggest that student achievement of reading skills R1, R2 and R3 were not affected by the number of balanced strategy literacy sessions that students attended. As well, overall reading skills cohort achievement on the 2010 OSSLT pretest was also found to be a good predictor of overall reading skills achievement on the 2014 OSSLT.

The implications of these findings are that achievement of reading skills was not directly influenced by ELL student attendance at the balanced strategy literacy program in this research study. Interestingly, Li (2012) noted that instruction needs to be meticulously scaffolded in order to support the uniquely varied skill levels within the classroom and that the instructor must compensate for student reading comprehension skills development by permitting the necessary time needed including a varied length of focus tailored to each skill in order to be effective. Brown (2010) found that reading instruction needs to be implemented strategically so as to develop contextual cuing of vocabulary. This research suggests that the balanced strategy literacy programming that was implemented was either not precisely scaffolded to meet student needs with vocabulary and reading skills R1 and R3 development, was not culturally tailored to



effectively utilize the strategy of word pairing, or it was possibly not long enough in duration to permit reading skills acquisition and application to personal knowledge and experience.

### **Limitations of Application of Findings from this Research Study.**

There are a number of limitations associated with this study that suggest caution should be used in the interpretation of results.

**The threat to internal validity.** Limitations to the research that was conducted during the scope of this study included the threat to internal validity of data due to the initial selection process of the participants. Although randomly assigned to treatment and sub-treatment groups, the original selection process was a convenience sample which limited the extent of generalizability of this study's results. The sample size was quite small and specific to an urban secondary school in any one given year. Although the use of a pretest to establish evidence of equivalency between the sub-groups was used, the overall sample size was still small and specific to one urban area in Ontario.

Additionally, by pretesting ELL students in order to ascertain a baseline for the research study, they gained experience in standardized test writing. This added experience provided the student with increasing familiarity of the test composition in language and format, thereby changing their reading strategies as a result of each test written. The implications of these findings are that reading skills achievement measures could be misrepresentative of student actual ability. However, pretesting was necessary for this research study in order to establish a baseline from which the two study groups could be equated prior to intervention and it was set apart by 6 weeks from the actual exposure to the 2014 OSSLT. According to Doe et al. (2011), student achievement scores can significantly improve with repeated exposure to standardized testing (such as the OSSLT). By being aware of and limiting student exposure to three

standardized testing experiences within the scope of this research every attempt was made to keep this threat to a minimum since each student had equal skills-building attempts. There was no evidence in this research study that standardized testing experience gave students an advantage to higher achievement scores within the scope of this research study.

Statistical regression is another threat to internal validity that may have occurred for those ELL students whose reading skills were at the level of provincial standard or above (Level 3 or 4) at time of the 2010 OSSLT pretest and who maintained skills demonstration on the 2009 OSSLT posttest and the 2014 OSSLT. Four students within the research cohort who demonstrated increasing competency on the pretest and posttest had scores drop to equivalent or below pre-test levels when completing the 2014 OSSLT. Equally present was the threat for some students whose reading skills may have been extremely poor at the time of the pretest and remained poor throughout successive demonstrations of skills. This threat was possible given that some ELL students were in mainstream programming by the time they attempted the 2014 OSSLT for the first time. This threat was minimized through maximizing the sample size, although only twenty students gave assent to partake in the research study from a forty member eligibility list. Five students within the research cohort whose achievement was below provincial standard from pre-test to 2014 OSSLT demonstrated levels of reading skills competency that remained unchanged for the duration of the research study.

Experimenter expectancy was also identified as a possible threat to internal validity given that the researcher was also in charge of school improvement planning and effecting change with ELL student achievement on the literacy test. In the role of researcher I had the opportunity to not only review the assessment criteria and the resulting reading comprehension achievement scores but to make immediate connections to school improvement planning as a result. This

dichotomy of purpose was consistently present to assessment protocols in this research study and therefore had to be continuously reviewed in order to ensure that assessment practices were accurate in their application. Through collegial discussions with program instructors, this researcher rationalized that assessment practices were correctly and accurately implemented in alignment with educational standards in Ontario. The threat of experimenter expectancy was justified in that this research study was good practice for ELL students attempting the 2014 OSSLT.

As previously noted there was also a threat to generalizability due to the individual characteristics of each cohort within a specific school setting as a function of their performance of skills demonstrations. Even though ELL students comprised the minority population at the school at which this research study was conducted, they may still have had results that could have been generalized to other ELL student secondary school populations if a large enough sample was obtained for research.

The absence of a true control group for the duration of this research study has resulted in a significant threat to internal validity given that there was no true baseline against which ELL L2 achievement results could be formulated for comparison against the independent variables of program attendance and use of first language in the instructional process. A third sub-group comprised of ELL students who used the session time as self-directed in the practicing of their reading skills for the OSSLT would have provided a highly valuable achievement data set from which to further analyze the instructional implementation of L1 and L2 balanced literacy strategies as a way of preparing students for the demonstration of the literacy diploma requirement. With a group composition similar in demographics to the treatment groupings comparisons in achievement scores may be able to reveal the importance of prior skill levels

with L2 reading comprehension skills. Achievement analyses in relation to previous completion of foreign equivalency credits in English, the current level at which an ELL student is studying an English compulsory course, the number of L2 credits earned and the effect of standardized testing experience would each provide insight into program effectiveness. The addition of a control group would also help to determine if the instructional treatment was the source for the improved scores or if the improved scores were resultant from one or more factors that had not previously been considered. In this research study, it's quite possible that the inclusion of a control group may have been able to identify the source of improvement in overall reading comprehension achievement. The use of a control group may have also been able to precisely isolate the most effective balanced strategy approaches to improving reading comprehension skills with ELL students. If a control group had been utilized in the design of this research study it may have been able to provide insight into the value of using L1 instructional balanced literacy strategies, both positive and negative. This would have been incredibly helpful from a project design viewpoint in order to validate or question current research on the use of first language in literacy instruction. Equally as important would be the ability to compare the effectiveness of lessons in terms of length and duration of the treatment in totality. It would be my recommendation that this research study not be repeated without the provision for a control group from which these types of comparisons could be conducted.

Even though the formulation of content for balanced strategy literacy instruction was created and implemented in response to current research and was based on the enduring expectations of the Grade 9 curriculum, there was no evidence in this study to suggest there was a specific benefit to including L1 language based strategies as a part of the support offered to ELL students. It is possible that the actual program content was not adequate to meet the needs

of varied skill levels of the research study participants which varied from enrolment in ESL programming through to completion of several English compulsory credits beyond the Grade 9 prerequisite. Since the program threshold was that of the Grade 9 curriculum expectations, the formulation of lessons may not have provided appropriately scaffolded learning required for the individualization of reading skills development. It is also possible that the use of multi-lingual instructors needed to include more training sessions in order to increase their familiarity and expertise with application of instructional balanced literacy strategies and program content. If this study was to be repeated for a similar purpose, I would recommend more focused balanced strategy instructional training prior to student involvement in order to maximize instructor expertise for building literacy skills through the application of L1 and L2 language based strategies.

Since there is research that supports the use of L1 balanced strategy literacy instruction (Cheng, 2012; Hayes et al., 2009; Mays, 2008), perhaps the issue lies not with the inclusion of this language-based strategy within the program but that the program itself was perhaps not long enough in duration to record a measured effect of the use of L1 strategies on student achievement of L2 reading skills. This is the most likely reason for the lack of significant difference in student achievement data given that there is extensive research that suggests the development of literacy from L1 programming takes in fact years to build student literacy to the level required for successful demonstration on the literacy diploma requirement (Cheng, Klinger, et al., 2007; Cheng et al., 2009; Kim & Jang, 2009; Nelson, 2005). The condensing of this research study into ten one-hour sessions was a pragmatic choice designed to maximize student participation and provide for the best of instructional teachers who could dedicate a manageable amount of time to an after-school program. In doing so, it becomes problematic from a data collection point of

view since the measurements remain in close proximity to such a short duration of treatment. Only half of the research study participants actually had perfect session attendance which contributed to a number of issues from the momentum of lesson progression through to not exhibiting a measurable increase in achievement perhaps due to the program intervention length being too short. Due to the brevity of the program, the students with intermittent attendance did not have the full benefit of the intended instructional lessons. If this study was to be repeated, I would recommend that the instructional sessions be extended through the course of a full semester with a minimum contact of twice per week outside of the school day.

**Threats to external validity.** Ecological validity was a concern for this research study since the participant sample was uniquely comprised of ELL students who had varying exposure to secondary school programming and achievement, with varying backgrounds of education from various foreign countries and were in various stages of acquiring an OSSD within a multicultural urban setting. As well, the majority of ELL students that took part in this research study had the intentions of furthering their academic studies at an Ontario post-secondary destination for the purposes of obtaining additional qualifications or certifications in accredited diploma or degree programs. This group of students is remarkably different in demographics from their peer group in relation to L1/L2 competencies, immigration status (Canadian citizen, refugee, and student visa), pathways (university bound) and post-secondary goals (university degree). The majority of students that comprise the overall peer group learned English as their first language, have completed all of their education to date in Ontario, are studying in various pathways that lead to the open, workplace, college and university levels and will either go to work or will pursue further training through specialized programs, apprenticeships, colleges or universities following secondary school diploma acquisition. Students in the overall peer group from the university

bound pathway achieved a 99% success rate while students within the college bound pathway achieved a 63% success rate on the 2014 OSSLT (Education Quality and Accountability Office, 2015a). ELL students who took part in this research study comprised less than 10% of the overall peer group and achieved 45% success rate on the 2014 OSSLT. Therefore, the generalizability of the research results from this study became quite specific to this unique genre of ELL students forcing the application validity to be quite limited.

An additional threat to external validity was the use of several testing instruments from EQAO that may not have been a good predictor of ELL student development of L2 reading skills during the scope of this research study. It remains possible that the use of an alternative testing instrument with a more refined measure of reading skills progression with ELL students may have been a more appropriate measurement instrument. For example, the inclusion of an oral testing component may have provided greater data on the progression of reading skills development. This is particularly true given the extensive exposure and development of student word recognition and vocabulary and the subsequent development of the multiple meanings of words within varied contexts during the balanced strategy literacy program which was then tested by an overall understanding on the pretest and posttests rather than by direct questioning of individualized meaning within any given sentence. Additionally, the use of many of the balanced literacy strategies included the social context for learning whereas all three of the testing instruments elicited student response in isolation and only in written format, which opposes the core recommendations of social-cognitive constructivist theory. I would recommend that if this research study was to be repeated that a comprehensive review of the applicability of the testing instrument and form of literacy response (oral and written) chosen be vetted for

appropriateness to the sensitivity needed to measure L2 reading achievement improvement with ELL students.

### **Overall Cohort Achievement of L2 Reading Skills and Language-Based Variables.**

An exploration of the effect of language-based variables on ELL achievement of L2 reading skills was conducted for the purposes of identifying from known credit accumulation data possible predictors of student readiness for literacy demonstration to meet OSSD requirements. These variables could help school teams to make individualized decisions on the prior development of student reading skill levels pertinent to provincial literacy testing. By identifying key variables that could predict successful demonstration of L2 literacy by ELL students, schools might be able to make more accurate decisions regarding inclusion to or deferral from literacy testing. A more standardized, formal process for making individualized decisions regarding deferral could potentially alleviate the social-emotional stress placed upon students who truly are not ready to demonstrate their functional L2 literacy. In such a multicultural society in which ELL students comprise sub-groups of student populations in many secondary schools throughout the province, it becomes our responsibility as educators to refine our practice so as to reach every student through our professional practice. Student engagement in the progression of learning to graduation cannot happen without identifying such key literacy demonstrations with greater accuracy. The variables explored below review their relationship to reading skills achievement on the 2014 OSSLT: L1 language development, foreign equivalency credits in English, L2 credit accumulation, level of ESL programming completed, current level of study in English compulsory credits and the extent to which the ELL student has L2 exposure outside the regular school day.



**Impact on cohort achievement by L1 education.** Since the Ontario literacy diploma requirement can initially be demonstrated once a student has completed Grade 9, an analysis at an equivalent number of years of L1 education was conducted for the purposes of identifying the effect on achievement of the extent of an ELL student's prior schooling. Research has shown that the extent to which an ELL student demonstrates L2 literacy is a direct function of the extent of their previously developed L1 literacy skills (Nassaji, 2007). Therefore, it would be expected that those students who have more experience with L1 education (and therefore more foreign equivalency credits in any subject area) would have a stronger basis from which to apply those previously learned literacy skills from their L1 to their L2 language development. Notably, higher the numbers of L1 secondary school credits earned by ELL students showed a significant, moderately strong negative correlation with 2014 OSSLT achievement of reading skill R1, suggesting that a student's achievement of L2 reading skill R1 is negatively affected by the increasing number of L1 secondary school credits earned. It is important to acknowledge that both of these findings are representative of a small sample size and could potentially be different for larger sample sizes. The implications of this finding suggests that the more L1 secondary school experience an ELL student has had, the more difficult it will be to demonstrate L2 understanding of explicitly stated ideas from reading selections. It would then follow that it would be recommended for students who wish to study in Ontario to earn an OSSD that the sooner they transfer from their secondary school in their home country the more likely they would be able to successfully demonstrate explicit understanding with reading skills. Zheng et al. (2007) emphasized the importance of building L2 literacy by working with students a minimum of 8 years prior to the requisite literacy demonstration for secondary school graduation. Cheng (2012) advises that although L1 literacy is a good predictor of L2 literacy, identification of what

the constraints may be when learning a new language (e.g., age, linguistic variations in reading, writing and speaking patterns) could provide some practicalities to ensuring effective second language acquisition. Implications regarding the extent of L1 secondary school experience coupled with the effect of beginning educational studies in Ontario sooner, suggest that more research is needed to determine if these recommendations would in fact significantly improve ELL literacy.

**Impact on cohort achievement by foreign equivalency English credits.** Since the demonstration of the literacy requirement for OSSD is completed in English, a comparison of 2014 OSSLT achievement by those students who had earned foreign equivalency credits in English prior to study in Ontario with those students who had not was conducted for the purposes of identifying whether or not having prior exposure to English language skills development would be of value to ELL students. Research has shown that the demonstration of the literacy skills, especially that of indirect understanding, can be difficult for ELL students (Doe et al., 2011; Education Quality and Accountability Office, 2012d). Implicit understanding of ideas from text is considered to be the most complex of reading skills to demonstrate because it presupposes that the student has experienced higher learning strategies of syntax (Cheng, Klinger, et al., 2007), which only develops as a result of greater exposure to language usage (e.g., through English course completion). Overall achievement levels of reading skills R1, R2 and R3 on the 2014 OSSLT by students who had been granted foreign equivalency credits for English and those who had not showed significant differences in achievement scores, with overall achievement levels being on average 15 points higher for those students who had previously studied English for credit at the secondary school level outside of Canada. Additionally, significant differences in achievement (measured as total number of correct

questions) were observed for each of reading skills R1, R2 and R3 between the group of students who had earned foreign equivalency credits in English and those who had not. The implications of these findings suggest a recommendation for ELL students to study English for credit prior to arrival in Ontario. This exposure to the L2 language development would greatly benefit the demonstration of overall L2 literacy reading skills within classroom curriculum and on the literacy diploma requirement.

**Impact on cohort achievement by L2 credit accumulation.** The effect of the accumulation of L2 credits on 2014 OSSLT achievement was conducted for the purposes of comparing if there was a threshold number of L2 credits earned that would impact higher reading skills scores. EQAO has defined literacy as the successful demonstration of the explicit and implicit understanding of the enduring expectations of the Grade 9 curriculum and the application of that understanding to personal knowledge and experience. It would be expected then that students who have earned at least 12 L2 credits (in any subject area; typical number of a Grade 10 student eligible to complete the literacy diploma requirement) would have higher achievement scores on the literacy test than those students who had earned fewer. Significant findings were noted for those students who had earned greater than 12 L2 credits as a function of achievement results with reading skill R1 on the OSSLT, suggesting that students with greater numbers of L2 credits achieve on average a score almost 2 points higher on questions relating to reading skill R1 than students in this research group with less than 12 L2 credits. The implication of these findings suggests that the more L2 credits earned by an ELL student, the greater their ability to demonstrate the literacy diploma requirement and that this demonstration should not occur prior to the accumulation of a minimum of 12 L2 credits.

**Impact on cohort achievement by ESL course level.** An achievement comparison was conducted between ELL students who were still enrolled in ESL courses and those ELL students who had successfully completed all ESL course levels for the purposes of identifying the readiness of ELL students to attempt the literacy diploma requirement via the OSSLT. The Ministry of Education (2007b) has emphasized the importance of the completion of ESL courses to ELL L2 language development by creating a framework within secondary schools that improves levels of expertise. ELL students progress in their competencies with reading and writing in English through the completion of ESL course curriculum. Therefore, it would be expected that 2014 OSSLT achievement would be greater for ELL students who have fully completed ESL classes than for those ELL students who are concurrently enrolled in ESL classes at the time of testing. Overall achievement levels of reading skills R1, R2 and R3 on the 2014 OSSLT by students who had earned a credit in ESL-E prior to the semester in which the literacy test was written and those who were still enrolled in ESL programming at the time of the literacy test showed significant differences in achievement scores, with overall achievement levels being on average 13 points higher for those students who were not currently enrolled in ESL programming. When broken down by individual reading skills R1, R2 and R3, these achievement levels on the 2014 OSSLT remain significant between the sub-group of students who had ESL on their timetable at the time of testing and those who did not, with significant differences in achievement levels (measured as total number of correct questions) for the latter. The implications of these results suggest that the development of ELL L2 literacy is dependent on the completion of ESL programming and that students who have ESL courses on their timetable at the time of the OSSLT should be deferred from testing until such time they have completed the full ESL program.

**Impact on cohort achievement by current level of English study.** An achievement comparison between those students who have completed the core compulsory Grade 9 English credit and those students who had not (at the time of testing) was conducted for the purposes of identifying ELL student readiness to attempt the literacy diploma requirement. EQAO recognizes that one of the key criteria used to identify if a student is ready to write the OSSLT is the completion of Grade 9 compulsory credit in English, the very foundation of the literacy test. Compulsory Grade 9 courses form the core of the enduring expectations that form the basis of materials used in the creation of the OSSLT and of which EQAO has identified as key to demonstrating literacy at level that leads to productivity as an adult member of society. It would be reasonable to expect greater achievement results on the OSSLT by those students who had completed the Grade 9 English core compulsory. Overall achievement levels of the reading skills on the 2014 OSSLT by the students who were studying at a minimum level of Grade 9 English on their timetable at the time of testing and those who were not showed significant differences in achievement scores, with overall achievement levels being on average 13 points higher for those students who had successfully completed English at the grade 9 level of the Ontario curriculum (minimum). When broken down by individual reading skills R1, R2 and R3, these achievement levels on the 2014 OSSLT were significant between the sub-group of students who had completed English compulsory credits at the minimum level of Grade 9 at the time of testing and those who did not. The implications of these results suggest that it is important for ELL students to complete Grade 9 English prior to attempting the literacy test in order to develop their reading skills to the level required for successful completion of the literacy diploma requirement.

**Impact on cohort achievement by English language exposure outside of school.** A cohort comparison of exposure to L2 literacy skills outside of the school day and 2014 OSSLT

achievement was conducted between students who consistently practiced English literacy skills on their own and those who did not, for the purpose of identifying the usefulness of independent practicing of L2 reading, L2 writing, and L2 speaking to the demonstration of reading skills scores on the 2014 OSSLT. Research has shown that the more a student builds understanding during reading the stronger the coherency of patterns of thinking that result (Kintsch, 1998). It would be expected then that students who build comprehension from the blending of cognition with prior knowledge while reading, writing or speaking in their L2 would be able to generate stronger contextualized meaning from the language. Overall achievement levels of the reading skills on the 2014 OSSLT by the students who were exposed to L2 literacy skills (10 or more points) at the time of testing and those who had minimal exposure to L2 outside of school throughout the week (less than 10 points) showed significant differences in achievement scores, with overall achievement levels being on average 10 points higher for those students who had greater L2 exposure. When broken down by individual reading skills R1, R2 and R3, differences in mean achievement scores on the 2014 OSSLT between the two groups of students with varying exposure to L2 literacy skills are significant suggesting that the more ELL students read, write and speak in L2 outside of their regular classes, the greater their ability to understand implicitly stated ideas in a reading selection and to make connections between ideas in a reading selection and personal knowledge and experience. The implications of these findings suggest that an instructional practice be developed across the curriculum that nurtures ELL L2 engagement outside of regularly scheduled classes so that these students can extend their L2 learning into the contextual application of their social experience. This finding is particularly interesting from the perspective that students typically spend triple the amount of time away from the school than

they do while in the school for their daily classes, leaving a rather extensive opportunity for practice with L2 literacy skills.

**Predicting overall achievement of reading skills on the 2014 OSSLT.** Since  $H_1$ ,  $H_2$  and  $H_4$  were each unsupported and the prediction from hypothesis  $H_3$  reinforces the idea that balanced strategy literacy instruction takes a long time to have a positive effect on R2 achievement, the results of the current study do not support that ELL students partake in balanced strategy literacy programming that utilizes L1 language based strategies in addition to L2 programming at this time. The results do, however, support the idea that ELL students take part in L2 balanced strategy literacy programming (whether that be based in the classroom or after school remains undetermined) since there was a significant positive effect on student reading skills achievement of understanding explicitly stated ideas and being able to apply that understanding to personal knowledge and experience.

This study identified a number of background variables that did help to predict scores on the 2014 OSSLT. It is possible that these variables might help educators predict which ELL students are sufficiently ready to demonstrate reading skills for the diploma requirement and which ELL students might need additional educational intervention. These findings were relevant for all ELL students who took part in the research study, regardless of research sub-grouping, indicating that these factors were useful predictors of student achievement (more so than the intervention type) on the 2014 OSSLT.

### **Application of Research Results to Preparation of ELL Students for the OSSLT.**

Currently in the Province of Ontario, the eligibility of ELL students to write the OSSLT is largely based on the student reaching the defined age equivalent to that of their cohort, rather than the credits achieved. This gap in achievement of Ontario curriculum credit courses has been

shown as a part of this research as a contributing factor that hinders their overall achievement of and demonstration of reading skills R1, R2 and R3 on the OSSLT. This gap is possibly mitigated by acquiring English language credits prior to studying in Ontario, since those students who had been granted foreign equivalency credits for English had significantly greater achievement on the 2014 OSSLT than those ELL students who had not previously studied English for credit.

Resonating with this prior learning of English language reading skills is the finding in this research study that suggests that the reading skills (in either L1 or L2) that have been acquired during the years prior to writing the test can be used to predict student ability to successfully demonstrate L2 reading skills on the OSSLT. It is important to note that the transference of L1 literacy skills may not in fact be direct due to dramatically different constructs with L1 and L2 reading patterns and rhythms, hence the variations of understanding from L2 narrative text. Cheng (2012) noted that this is particularly true with the language of Khmer for example, which was one of the first languages of a student in this research study.

Further supporting the successful achievement of reading skills R1, R2 and R3 on the OSSLT is the finding that those students who had earned the equivalency of 12 L2 credits in Ontario at the secondary level, who had successfully completed ESL-E, and had earned the minimum of English compulsory credit at the level of Grade 9, had significantly demonstrated higher achievement of these reading skills than those ELL students who had not achieved each of these milestones.

Finally, the findings of this study suggest that the greater the exposure of the ELL student to L2 literacy skills outside of the regular school day, the greater their overall achievement of the reading skills R1, R2 and R3 on the OSSLT.



**Application to ELL achievement locally.** Based on 2014 OSSLT achievement results by ELL students enrolled at this specific secondary school and who were enrolled in various levels of ESL programming, the following procedures should be implemented in the determination of eligibility for writing the literacy test. It is recommended for literacy teams to give consideration only to those ELL students who have successfully completed the equivalent of ESL level E as well as the compulsory Grade 9 English credit course (any level). Research results from this study at this secondary school indicated that reading skills that had been developed prior to writing the 2014 OSSLT were a good predictor of reading skills demonstration on the 2014 OSSLT. Therefore, it might be also be helpful for school-based literacy teams to determine ELL student proficiency in reading skills (in both L1 and L2) prior to beginning preparations for writing the literacy test.

This research study found no significant impact on ELL student achievement of reading skills R1, R2 and R3 by sub-group treatment (L1 and L2 or L2-only) in relation to the balanced strategy literacy sessions attended, but it would be worth revisiting the idea of hosting such programs for ELL students at this secondary school for those who have yet to complete the literacy test since the exposure to English language literacy skills significantly improved achievement during the time of the study (either through the program itself or through those embedded in the curriculum; the reason for the improvement with literacy skills remains undetermined). Although analysis did not identify a significant relationship between program attendance and overall achievement of readings skills on the OSSLT, in theory the exposure of an ELL student to scaffolded balanced literacy strategies should yield stronger reading skills competency. Therefore further recommendation for this secondary school would be to conduct a balanced strategy literacy program for the duration of a full semester prior to the literacy test in

order to permit a longer time frame (in tandem with pre-existing embedded classroom programming) so as to nurture L2 comprehension with the implicit understanding of ideas from reading text, keeping in mind that ELL student comprehension requires 5 to 7 years of investment for L2 development in order to demonstrate skills on par with their non-ELL peers.

Based on social cognitive constructivist theory, the educational model of construction-integration and published educational research, balanced literacy strategies to promote ELL literacy development should include linguistic bridging between the ELL L1 and L2 language skills even though this research study did not find merit to warrant this approach. Particularly with the inclusion of various text types (e.g., graphic, information and narrative) that heighten student engagement through cultural extensions, as noted from aforementioned research. It is recommended for the instructional approach to include the scaffolding of lessons tailored to individualized student learning needs in order to support a wide variety of student reading levels and the opportunity to connect with the text through their prior knowledge. It is also recommended for this program to begin with the identification of student reading zones of proximal development in order to facilitate the continuum of comprehension from the simple cognition of decoding and interpreting text to the more complex patterns of constructing meaning through the woven integration of contextual understandings. The inclusion of various assessment practices (e.g., verbal interviews and graphic organizers) that provide continuous opportunities for descriptive feedback (e.g., self-, peer- and teacher-) have also been shown in previous research to be of value to balanced strategy literacy programming, although there was no evidence of their positive effect on reading skills achievement during this research study.

Encouraging ELL students to practice L2 literacy skills outside of the structured school day is also recommended in relation to speaking with peers, reading magazines and novels, and

writing in English (including the use of technology; e.g., texting, emails, homework assignment completion). The hosting of English conversation clubs before school, at lunch or after school could help with stronger achievement of L2 reading skills at this secondary school. Each of these recommended strategies would be predicated upon the professional development of the classroom teachers and literacy committee members at this secondary school in order to gain expertise with balanced strategy instructional approaches with L1 and L2 literacy skills development by ELL students.

Within the scope of this professional development it is further recommended that teachers and literacy committee members at this secondary school receive specialist training for working with ELL students, particularly the provision for the instructional training of the balanced strategy literacy program teacher. It would be a recommendation for this secondary school to work with program teachers prior to instructional sessions with ELL students should this literacy strategy be implemented at a future date. By ensuring that the program teachers are ESL qualified and have a good understanding of the instructional and assessment strategies that would best support ELL student acquisition of reading skills, balanced strategy literacy programming could possibly be more effective with the improved achievement of ELL L2 literacy.

The involvement of the school administrator as a lead learner with the literacy school learning team at this secondary school would also be recommended as a way to ensure that the focused work remains purposeful in relation to identified gaps in achievement data. The continued gathering and analysis of school-based ELL student data (e.g., background, L1 and L2 credit accumulations, English compulsory credit pathway levels, and achievement) would prove very helpful in ensuring the implemented action plans are responsive and supportive to the school's unique literacy needs.

**Application to ELL achievement regionally.** Since ELL students comprise a growing trend in secondary school populations in the region in which the study took place, it would be prudent for secondary schools within multicultural urban settings to implement each of the recommendations made regarding the aforementioned local applications. It would become important to share between secondary schools any promising achievement trends with reading skills demonstrations so as to further close the prominent achievement gap between ELL students and that of their non-ELL peers on literacy demonstrations for diploma requirements.

Since exposure to L2 skills outside of the regular school day was found to be beneficial to ELL student achievement of reading skills on the 2014 OSSLT, further value could be obtained by hosting a balanced strategy literacy after school or weekend program centrally such that students from different secondary schools could attend and benefit from greater peer exposure and discussion. By engaging ELL students with their peers within the region, these programs would provide a routine that would engage students socially to promote English language development.

Based on the findings of this research study that ELL students who had earned English language foreign equivalency credits showed greater success with achievement scores on the OSSD diploma requirement, it would be prudent to have the recruiting practice of inviting international students to enrol for secondary schools within various urban Ontario regions to include provisions for students to study English for credit in their home country prior to studying in Canada.

It would also be recommended for board level literacy consultants to collaboratively share with school-based literacy teams best practices for working with ELL students in the context of regional achievement data. Literacy consultants would also benefit from the exposure

of working with EQAO on such projects as Range Finding, Field Testing and OSSLT marking in order to continue to share strategies for working with ELL students as gained from practical experience with the administration of the OSSLT. This sharing of both data and best practices with ELL students across the region would serve to provide a consistency in practice with ELL students which could potentially lead to improved achievement with L2 literacy skills.

**Application to ELL achievement provincially.** Since ELL student achievement on the OSSLT has been shown to be well below provincial standard for over a decade (Cheng, Klinger, et al., 2007; Education Quality and Accountability Office, 2012d; Zheng et al., 2007), ongoing research to determine the most effective instructional approaches to improving reading skills demonstrations by ELL students continues to be of considerable value within the Province of Ontario due to the completion of the mandatory literacy requirement for secondary school graduation. In an era of Ministry of Education mandates calling for school improvement planning to close the achievement gap between ELL students and their cohort, the exploration of strategies to support both FTE and PE ELL achievement on the OSSLT becomes worthy of continued investigation. It is the recommendation of this research study to continue with similar research at the provincial level in order to investigate the possible positive effects of after school programming, balanced strategy literacy instruction in L1 and L2 and the time frame needed to produce significantly improved reading skill levels. It is also recommended for the Ministry of Education to continue the provision for Learning Opportunities Grants to support the continuation of such after school programs as balanced strategy literacy instruction. These recommendations with L2 literacy are considered to be important for consideration provincially because it is our collective responsibility globally to ensure our secondary school graduates engage in productive adult lives in society.

Based on the findings of this research study that students who had achieved the equivalency of 12 secondary school credits had greater achievement with reading skills R1, R2 and R3 than those with fewer than 12 credits, it would be recommended for the Ministry of Education to further this research in order to identify key characteristics of successful ELL achievement so as to produce an educator guideline of recommendations for the eligibility of ELL students who wish to complete the graduation diploma requirement via the literacy test. In addition, based on the findings in this research study and as substantiated by future research studies, it would be also appropriate if found to be warranted, to include in this Ministry published recommendation for ELL students to complete the equivalence of ESL level E and have completed English foreign equivalency credits prior to completing literacy graduation diploma requirements via the literacy test. By publishing defined minimum threshold criteria that help to refine literacy test eligibility, secondary school literacy teams can better support the acquisition of reading skills with ELL students who have not yet qualified to attempt the graduation literacy requirement in response to recommended guidelines.

### **Recommendations for Future Research.**

**Educating the researcher.** Since this research study has revealed several questions regarding the effectiveness of the intervention, I feel it has become necessary to further deepen my understanding of the parameters of this persistent achievement gap with ELL student literacy. The next step professionally will be for me to pursue ESL Specialist Qualifications in order to more fully understand what effective instruction with ELL students looks like and how best their literacy acquisition can be supported through ESL programming. As well, since the identified achievement gap with literacy diploma requirement demonstrations appears to be system-wide, I believe that the acquisition of Supervisory Officer Qualifications would permit my ability to

effect change beyond just one secondary school. Further professional training with data analysis in order to accurately identify reasons for data variances would also prove beneficial to my ability to hone in on school improvement planning in relation to ELL achievement. Collaborative inquiry with school learning teams will prove to be an excellent starting point in the discussion of what we found, identifying from there what directly affects ELL achievement and what the next best steps would be to help improve their overall literacy. In the meantime, it would be prudent to continuously monitor current research with ELL literacy in order to filter through recommended instructional strategies for inclusion in future research with educators and students in this school board.

**Repeating the research.** Even though results from this research study did not conclude that the intervention of balanced strategy literacy instruction as a function of L1 and L2 language based treatments had a significant effect on ELL student achievement of reading skills on the 2014 OSSLT, it is recommended to repeat this research study. Upon review of current research and verification of inclusion of a variety of recommended strategies, the provision for a longer window of opportunity for intervention could possibly produce the intended result. It would be prudent to track instances in which there were no equivalencies between L1 and L2 vocabulary and in which language. An emphasis on vocabulary development through word pairing may prove helpful to building ELL explicit understanding of text and could potentially help with the implicit understanding of text meaning. By extending the project timelines, it would be possible for students from foreign cultures to explore the nuances of Ontario culture in order to improve their ability to make connections between the text and their personal experience.

Further to this, a recommendation for the addition of a third subsample of students comprised of only day school students would be prudent for comparison between students in the

two sub-group samples within the research study (treatment and sub-treatment) who attend the after school balanced strategy literacy program in addition to those integrated into regular day school classes. When doing so it would be recommended to broaden the sampling area to include other secondary schools with similar demographics so as to permit the expansion and generalization of results. It would be interesting to see if the length of time in Ontario schooling would be a factor in the student ability to demonstrate success with the literacy diploma requirement. This would then hopefully begin to show a pattern with ELL reading skills preparation and literacy achievement thereof, which would add to the practical significance of the findings in the current research field.

Specifically, this research should include the tracking of whether the student was FTE or PE in addition to the other independent variables. In addition, the data should once again include the length of time that the ELL student has been studying in Ontario. The inclusion of their formal educational experience prior to studying in Ontario would help to establish a research cohort with similarities in education. The provision for hypotheses at the outset of the study that formally investigate the relationship of a variety of language-based variables (e.g., the current level of English being studied, total number of foreign equivalency credits in English, total number of L2 credits and prior experience with standardized testing). By adding to the research knowledge base, it becomes compelling as educators to change our instructional practice with ELL students in order to competently prepare them for the successful completion of Ontario literacy diploma requirements.



### References

- Anton, M. (1999). The discourse of a learner-centered classroom: Sociocultural perspectives on teacher-learner interaction in the second-language classroom. *The Modern Language Journal*, 83(3), 303-318.
- Birjandi, P., & Tamjid, N. H. (2012). The role of self-, peer and teacher assessment in promoting Iranian EFL learners' writing performance. *Assessment and Evaluation in Higher Education*, 37(5), 513-533.
- Booth Olson, C., Land, R., Anselmi, T., & AuBuchon, C. (2010). Teaching secondary English learners to understand, analyze, and write interpretive essays about theme. *Journal of Adolescent & Adult Literacy*, 54(4), 245-256. doi: 10.1598/JAAL.54.4.2
- Brown, F. A. (2010). Vocabulary knowledge and comprehension in second language text processing: A reciprocal relationship? *Asian EFL Journal*, 12(1), 88-133.
- Canadian Literacy and Learning Network. (2015a). Literacy statistics in Canada. Retrieved 30 DEC 2013, from <http://www.literacy.ca/literacy/literacy-sub/>.
- Canadian Literacy and Learning Network. (2015b). All about literacy in Canada. Retrieved January 18 2015, 2015, from <http://www.literacy.ca/literacy/>.
- Chau, J., Wu, W., Chen, J., & Lughmani, S. (2012). ESL readers' comprehension performance: The Chinese secondary context. *ELT Journal*, 66(3), 304-317.
- Chen, M. (2012). Effects of the order of reading text or viewing a film and L1/L2 captions on reading comprehension. *Perceptual & Motor Skills*, 115(1), 18-26.

- Cheng, H. (2012). Learning to read across languages: Cross-linguistic relationships in first- and second-language literacy development. *Reading and Writing, 25*(2), 611-617. doi: 10.1007/s11145-010-9280-9
- Cheng, L., Fox, J., & Zheng, Y. (2007). Student accounts of the Ontario secondary school literacy test: A case for validation. *The Canadian Modern Language Review, 64*(1), 69-98.
- Cheng, L., Klinger, D. A., & Zheng, Y. (2007). The challenges of the Ontario secondary school literacy test for second language students. *Language Testing, 24*(2), 185-208.
- Cheng, L., Klinger, D. A., & Zheng, Y. (2009). Examining students' after-school literacy activities and their literacy performance on the Ontario secondary school literacy test. *Canadian Journal of Education, 32*(1), 118-148.
- Craig, H. K., Thompson, C. A., Washington, J. A., & Potter, S. L. (2004). Performance of elementary-grade African American students on the Gray oral reading tests. *Language, Speech, and Hearing Services in School, 35*(2), 141-154. doi: 0160-1461/04/3502-0141
- Cummins, J. (2007). Promoting literacy in multilingual contexts. *What Works? Research into Practice, Research Monograph #5* (June), 1-4. Retrieved from <https://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/Cummins.pdf>.
- Davis Lenski, S., Ehlers-Zavala, F., Daniel, M. C., & Sun-Irminger, X. (2006). Assessing English-language learners in mainstream classrooms. *The Reading Teacher, 60*(1), 24-34. doi: 10.1598/RT.60.13
- Dixon, P., & Bortolussi, M. (2013). Construction, integration, and mind wandering in reading. *Canadian Journal of Experimental Psychology, 67*(1), 1-10. doi: 10.1037/a0031234

Doe, C., Cheng, L., Fox, J., Klinger, D. A., & Zheng, Y. (2011). What has experience got to do with it? An exploration of L1 and L2 test takers' perceptions of test performance and alignment to classroom literacy activities. *Canadian Journal of Education*, 34(3), 68-85.

Education Quality and Accountability Office. (2007). *Student achievement: EQAO's provincial report on the results of the 2006-2007 Ontario secondary school literacy test*. Toronto: Queen's Printer for Ontario. Retrieved from [http://www.eqao.com/en/about\\_eqao/about\\_the\\_agency/annual\\_reports/communication-docs/annual-report-2006-2007.pdf](http://www.eqao.com/en/about_eqao/about_the_agency/annual_reports/communication-docs/annual-report-2006-2007.pdf).

Education Quality and Accountability Office. (2010c). *A comparison of four test equating methods*. Toronto, Ontario: Queen's Printer for Ontario. Retrieved from [http://www.eqao.com/en/research\\_data/Research\\_Reports/DMA-docs/comparison-equating-methods.pdf](http://www.eqao.com/en/research_data/Research_Reports/DMA-docs/comparison-equating-methods.pdf).

Education Quality and Accountability Office. (2010e). *Ontario secondary school literacy test: School and board results, April 2010*. Toronto, Ontario: Queen's Printer for Ontario. Retrieved from [https://eqaoweb.eqao.com/PBS/Download.aspx?RptType=28&\\_Mident=832103&RptLang=E&\\_BatchID=&\\_ApplySuppression=0&\\_OrgType=S](https://eqaoweb.eqao.com/PBS/Download.aspx?RptType=28&_Mident=832103&RptLang=E&_BatchID=&_ApplySuppression=0&_OrgType=S).

Education Quality and Accountability Office. (2010g). *EQAO's technical report for the 2008-2009 assessments*. Toronto: Queen's Printer for Ontario. Retrieved from <http://www.eqao.com/en/assessments/Pages/Technical-Reports.aspx>.

Education Quality and Accountability Office. (2011d). *EQAO's executive summary of the technical report for the 2009-2010 assessments*. Toronto, Ontario: Queen's Printer for Ontario. Retrieved from <http://www.eqao.com/en/assessments/Pages/Technical-Reports.aspx>.

Education Quality and Accountability Office. (2011e). *Information bulletin: Ontario secondary school literacy test (OSSLT), 2010-2011*. Toronto, ON: Queen's Printer for Ontario. Retrieved from

<http://www.eqao.com/en/assessments/OSSLT/assessment-docs/information-bulletin-osslt.pdf>.

Education Quality and Accountability Office. (2012a). *Ontario secondary school literacy test (OSSLT) administration guide, March 2012*. Toronto, Ontario: Queen's Printer for Ontario. Retrieved

from <http://www.eqao.com>, by request.

Education Quality and Accountability Office. (2012b). *Ontario secondary school literacy test (OSSLT)*

*guide for accommodations, special provisions, deferrals and exemptions, March 2012*. Toronto,

Ontario: Queen's Printer for Ontario. Retrieved from <http://www.eqao.com>, by request.

Education Quality and Accountability Office. (2012d). *Ontario secondary school literacy test, March*

*2012: Report of provincial results*. Toronto, Ontario: Queen's Printer for Ontario. Retrieved from

[https://eqaoweb.eqao.com/PBS/Download.aspx?RptType=28&\\_Mident=832103&RptLang=E&\\_BatchID=&\\_ApplySuppression=0&\\_OrgType=S](https://eqaoweb.eqao.com/PBS/Download.aspx?RptType=28&_Mident=832103&RptLang=E&_BatchID=&_ApplySuppression=0&_OrgType=S).

Education Quality and Accountability Office. (2012e). *Ontario secondary school literacy test: School and board results, March 2012*. Toronto, Ontario: Queen's Printer for Ontario. Retrieved from

[https://eqaoweb.eqao.com/PBS/Download.aspx?RptType=28&\\_Mident=832103&RptLang=E&\\_BatchID=&\\_ApplySuppression=0&\\_OrgType=S](https://eqaoweb.eqao.com/PBS/Download.aspx?RptType=28&_Mident=832103&RptLang=E&_BatchID=&_ApplySuppression=0&_OrgType=S).

Education Quality and Accountability Office. (2013). *How final scores are calculated*. Toronto, Ontario:

Queen's Printer for Ontario. Retrieved from <http://www.eqao.com>, by request.

Education Quality and Accountability Office. (2014). *2013-2014 Technical Report - Reliability and Validity Tables*. Toronto, Ontario: Retrieved from

<http://www.eqao.com/en/assessments/Pages/Technical-Reports.aspx>.

Education Quality and Accountability Office. (2015a). *OSSLT 2014-2015 school report: First time eligible*.

Toronto, ON: EQAO. Retrieved from

[https://eqaoweb.eqao.com/PBS/Download.aspx?RptType=5&\\_Mident=786217&RptLang=E&\\_BattachID=1&\\_ApplySuppression=1&\\_OrgType=S](https://eqaoweb.eqao.com/PBS/Download.aspx?RptType=5&_Mident=786217&RptLang=E&_BattachID=1&_ApplySuppression=1&_OrgType=S).

Eshiet, O. I. (2012). Synthetic phonics as a tool for improving the reading skills of Nigerian pupils. *Annual Review of Education, Communication & Language Sciences, 9*, 1-21.

Fender, M. (2008). Spelling knowledge and reading development: Insights from Arab ESL learners.

*Reading in a Foreign Language, 20*(1), 19-42.

Gomez Palacio, C. (2010). Strategies to help ESL students improve their communicative competence and class participation: A study in a middle school. *HOW, 17*(December), 73-89.

Government of Ontario. (2013, AUG 1 ). Ontario's people and culture. Retrieved DEC 31 2013, from

<http://www.ontario.ca/government/about-ontario>

Graves, M. F., Juel, C., Graves, B. B., & Dewitz, P. (2011). *Teaching reading in the 21st century:*

*Motivating all learners* (5th ed.). Boston, MA: Allyn & Bacon.

Hardwood, C. (2012). The big picture: literacy in Canada. Ottawa, ON.

Hardy, I. (2013). Testing that counts: Contesting national literacy assessment policy in complex

schooling settings. *Australian Journal of Language and Literacy, 36*(2), 67-77.

- Hayes, K., Rueda, R., & Chilton, S. (2009). Scaffolding language, literacy, and academic content in English and Spanish: the linguistic highway from Mesoamerica to Southern California. *English Teaching: Practice and Critique*, 8(2), 137-166.
- Hinton, A., Rogers, W. T., & Kozlow, M. (2010). *Keeping an eye on literacy: Tracking the progress of students who were unsuccessful on or did not participate in the 2006 Ontario secondary school literacy test*. Toronto, Ontario: Queen's Printer for Ontario Retrieved from [http://www.eqao.com/en/research\\_data/Research\\_Reports/DMA-docs/keeping-eye-literacy.pdf](http://www.eqao.com/en/research_data/Research_Reports/DMA-docs/keeping-eye-literacy.pdf).
- Kim, J., & Jang, E. (2009). Differential functioning of reading subskills on the OSSLT for L1 and ELL students: A multidimensionality model-based DBF/DIF approach. *Language Learning*, 59(4), 825-865.
- Kintsch, W. (1988). The role of knowledge in discourse comprehension: A construction-integration model. *Psychological Review*, 95(2), 163-182.
- Kintsch, W. (1998). *Comprehension: A paradigm for cognition*. Cambridge, UK: Cambridge University Press.
- Kintsch, W., Patel, V. L., & Anders Ericsson, K. (1999). The role of long-term working memory in text comprehension. *Psychologia*, 42, 186-198.
- Klinger, D. A., Rogers, W. T., Anderson, J. O., Poth, C., & Calman, R. (2006). Contextual and school factors associated with achievement on high-stakes examination. *Canadian Journal of Education*, 29(3), 771-797.

- Leung, C., & Lewkowicz, J. (2006). Expanding horizons and unresolved conundrums: Language testing and assessment. *TESOL*, 40(1 (March)), 211-234.
- Li, D. (2012). Scaffolding adult learners of English in learning target form in a Hong Kong EFL university classroom. *Innovation in Language Learning and Teaching*, 6(2), 127-144.
- Li, X., & Zhang, M. (2004). Why Mei still cannot read and what can be done. *Journal of Adolescent & Adult Literacy*, 48(2), 92-101.
- Liu, P., Parker, R., & Lara, R. (2001). Using standardized test unconventionally: An adapted reading assessment. *Reading Improvement*, 38(1 (Spring)), 27-37.
- Liyanage, I., & Bartlett, B. J. (2012). Gender and language learning strategies: Looking beyond the categories. *The Language Learning Journal*, 40(2), 237-253.
- Mays, L. (2008). The cultural divide of discourse: Understanding how English-Language Learners' primary discourse influences acquisition of literacy. *The Reading Teacher*, 61(5), 415-418. doi: 10.1598/RT.61.5.6
- McElvain, C. M. (2010). Transactional literature circles and the reading comprehension of English learners in the mainstream classroom. *Journal of Research in Reading*, 33(2), 178-205. doi: 10.1111/j.1467-9817.2009.01403.x
- McNamara, D. S., & Kintsch, W. (1996). Learning from texts: Effects of prior knowledge and text coherence. *Discourse Processes*, 22(3 (October-December)), 247-288.
- Ministry of Education. (2007a). *English language learners: ESL and ELD programs and services: Policies and procedures for Ontario elementary and secondary schools kindergarten to grade 12*.

- Toronto, ON: Queen's Printer for Ontario. Retrieved from <http://www.edu.gov.on.ca/eng/document/esleldprograms/esleldprograms.pdf>.
- Ministry of Education. (2007b). *The Ontario Curriculum Grades 9 to 12: English as a Second Language and English Literacy Development, Revised*. Toronto, ON: Queen's Printer for Ontario. Retrieved from <https://www.edu.gov.on.ca/eng/curriculum/secondary/esl912currb.pdf>.
- Ministry of Education. (2010). *Growing Success: Assessment, evaluation, and reporting in Ontario schools*. Toronto, ON: Queen's Printer for Ontario Retrieved from [www.edu.gov.on.ca/eng/policyfunding/growSuccess.pdf](http://www.edu.gov.on.ca/eng/policyfunding/growSuccess.pdf).
- Ministry of Education. (2011). *STEP: Steps to English proficiency*. Toronto, ON: Queen's Printer for Ontario. Retrieved from <http://www.edugains.ca/newsite/ell/index.html>.
- Murphy, A. (2009). Tracking the progress of English language learners. *Phi Delta Kappan*, 91(3), 25-31.
- Nassaji, H. (2007). Schema theory and knowledge-based processes in second language reading comprehension: A need for alternative perspectives. *Language Learning*, 57(1 (June)), 79-113.
- Nelson, A. (2005). Increased learning time and targeted instruction improve academic skills for at-risk ESL learners. *International Journal of School Disaffection*, 3(2), 48-52.
- Organisation for Economic Co-operation and Development. (2015). Education policy outlook Canada. In L. Hawe & S. Copeland (Eds.), *Education Policy Outlook* (pp. 24).
- Ortega, I., Luft, A. L., & Wong, S. S. (2013). Learning to teach inquiry: A beginning Science teacher of English language learners. *School Science and Mathematics*, 112(1), 29-40.



Peyman, S., & Sadighi, F. (2011). The relationship between Iranian EFL learners' stress and their reading comprehension. *Pan-Pacific Association of Applied Linguistics*, 15(1), 67-90.

Piaget, J. (1952). *The origins of intelligence in children*. Retrieved from

<http://books2.scholarsportal.info.libproxy.wlu.ca/viewdoc.html?id=243699#tabview=tab1>.

Pu, C. (2010). Rethinking literacy instruction to non-LEP/ESL-labeled language minority students. *Literacy Teaching and Learning*, 15(1/2), 137-155.

Rajabi, P. (2009). Cultrual orientation and reading comprehension models: The case of Iranian rural and urban students. *Novitas-ROYAL*, 3(1), 75-82.

Roessingh, H., & Johnson, C. (2004). Teacher-prepared materials: A principled approach. *TESL Canada Journal*, 22(1), 44-63.

Rosenblatt, L. M. (1978). *The reader, the text, the poem: The transactional theory of the literary work*. Carbondale, IL: Southern Illinois University Press.

Sanjose, V., Vidal-Abarca, E., & Padilla, O. M. (2006). A connectionist extension to Kintsch's construction-integration model. *Discourse Processes*, 42(1), 1-35.

Santau, A., Maerten-Rivera, J., & Huggins, A. C. (2011). Science achievement of English language learners in urban elementary schools: Fourth-grade student achievement results from a professional development intervention. *Science Education*, 95(5), 771-793. doi: 10.1002/sce.20443

Schunk, D. H. (2012). *Learning theories: An education perspective*. Boston, MA: Allyn and Bacon.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin.

- Shen, F. (2013). Using group discussion with Taiwan's EFL college students: A comparison of comprehension instruction for book club, literature circles, and instructional conversations. *English Language Teaching, 6*(12), 58-78. doi: 10.5539/elt.v6n12p58
- Shin, S. J. (2010). Teaching English language learners: Recommendations for early childhood educators. *Dimensions of Early Childhood, 38*(2), 13-21.
- Short, D. J., Echevarria, J., & Richards-Tutor, C. (2011). Research on academic literacy development in sheltered instruction classrooms. *Language Teaching Research, 15*(3), 363-380. doi: 10.1177/1362168811401155
- Solorzano, R. W. (2008). High stakes testing: Issues, implications, and remedies for English language learners. *Review of Educational Research, 78*(2), 260-329.
- Taguchi, N. (2007). Development of speed and accuracy in pragmatic comprehension in English as a foreign language. *TESOL, 41*(2 (June)), 313-338.
- Toohy, K. (2007). Are the lights coming on? How can we tell? English language learners and literacy assessment. *The Canadian Modern Language Review, 64*(2), 249-268.
- United Nations Educational Scientific and Cultural Organization. (2004). The plurality of literacy and its implications for policies and programmes. In U. E. Sector (Ed.), (pp. 32). Paris, France: UNESCO.
- Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Walczyk, J. J. (2000). The interplay between automatic and control processes in reading. *Reading Research Quarterly, 35*(4, October/November/December), 554-566.

Willner, L. S., Rivera, C., & Acosta, B. D. (2009). Ensuring accommodations used in content assessments are responsive to English-language learners. *Reading Teacher, 62*(8), 696-698.

Wurr, A. J. (2003). Reading in a second language: A reading problem or a language problem? *Journal of College Reading and Learning, 33*(2 (Spring)), 157-169.

Yu, G. (2008). Reading to summarize in English and Chinese: A tale of two languages? *Language Testing, 25*(4), 521-551. doi: 10.1177/0265532208094275

Zheng, Y., Cheng, L., & Klinger, D. A. (2007). Do test formats in reading comprehension affect second-language students' test performance differently? *TESL Canada Journal, 25*(1, Winter), 65-79.

Zheng, Y., Klinger, D. A., Cheng, L., Fox, J., & Doe, C. (2011). Test-takers' background, literacy activities, and views of the Ontario secondary school literacy test. *Alberta Journal of Educational Research, 57*(2), 115-136.

## Appendix A


### *Quantifying English Language Levels of Completion*

English Courses Completed	Level
ESL A (English as a Second Language, ESL Level 1)	1
ESL B (English as a Second Language, ESL Level 2)	2
ESL C (English as a Second Language, ESL Level 3)	3
ESL D (English as a Second Language, ESL Level 4)	4
ESL E (English as a Second Language, ESL Level 5)	5
Grade 9 (ENG1L, 1P or 1D)	6
Grade 10 (ENG2L, 2P or 2D)	7
Grade 11 (ENG3E, 3C or 3U)	8
Grade 12 (ENG4E, 4C or 4U)	9

Adapted from "The Ontario Curriculum Grades 9 to 12 Revised: English as a Second Language and English Literacy Development," by the Ministry of Education, 2007, retrieved from <http://www.edu.gov.on.ca/eng/document/esleldprograms/esleldprograms.pdf>, p. 13.  
Copyright 2007 by American Psychological Association.

**Appendix B***2010 OSSLT Pretest*

Sample materials from the April 2010 OSSLT which acted as the pretest.

	
<b>NAME:</b> April 2010: PRE-TEST	<b>BOOKLET</b> <b>1</b>
<b>Ontario Secondary School Literacy Test</b>	
SESSION 1	
RELEASED SELECTIONS AND TEST QUESTIONS	

## Section I: Reading

Ontario Secondary School Literacy Test

Read the selection below and answer the questions that follow it.

## Romans putting a lock on love

In spring 2007, sweethearts in the Italian capital of Rome adopted a new ritual as a symbol of undying love: hanging a padlock on a lamppost on the city's most ancient bridge. Some couples write their names or a message on the lock. Then they throw the key over their shoulders into the Tiber River to avoid seeing where it falls.

It's quite a change for a bridge that has seen more war than love since it was built 2200 years ago. Ponte Milvio was the battlefield for rival Roman emperors and was the backdrop of Italy's struggle for independence in the 1800s.

The padlock fad was inspired by two best-selling novels (with combined sales of 2.5 million copies) and their movie adaptations, which depict an unlikely romance between Roman teenagers. The ritual has spilled into a music video and inspired a prize—the Golden Padlock—awarded to the best love message. In the process, tourists are being drawn to an area that is usually off the beaten track.

The craze has drawn hundreds of couples since it started, causing city officials to wonder whether the ancient Roman pedestrian bridge is suited to such an overwhelming display of emotion.

"The rite has reached a dimension that will be difficult to cope with. We must guarantee the bridge's decency while preserving this beautiful practice," says Marco Pecora, a city official.



Adapted from "Romans putting a lock on love," by Alessandra Ritto, Associated Press, published in the Toronto Star, March 19, 2007. Used with permission of The Associated Press. Copyright © 2007. All rights reserved.

**Multiple-Choice** (Record the best or most correct answer on the Student Answer Sheet.)

1. "Mithra" is the name of a

- a river.
- b bridge.
- c city official.
- d Roman emperor.

2. The "Golden Padlock" prize recognizes

- e music.
- f movies.
- g romance.
- h teenagers.

3. Which event occurred first in the development of the ritual?

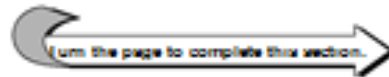
- a Couples threw keys into the river.
- b Two popular novels were published.
- c A Roman city official made a statement.
- d Many tourists chose to visit the ancient bridge.

4. Describing the bridge as "off the beaten track" means it is

- e ancient.
- f rarely used.
- g a site of battles.
- h not used by trucks.

5. Which word is closest in meaning to "rite" as used in paragraph 5?

- a solution
- b privilege
- c ceremony
- d discussion



**Section I: Reading**

Ontario Secondary School Literacy Test

**Written Answer**

- 6 Should city officials in Rome be worried or pleased about the fad of putting locks on the lamppost? Explain your answer using details from the selection and your own ideas.

---

---

---


---

---

---

**Rough Notes**

Use the space below for rough notes. Nothing you write in this space will be scored.

End of Section I. Continue to Section II 



Section VI: Reading

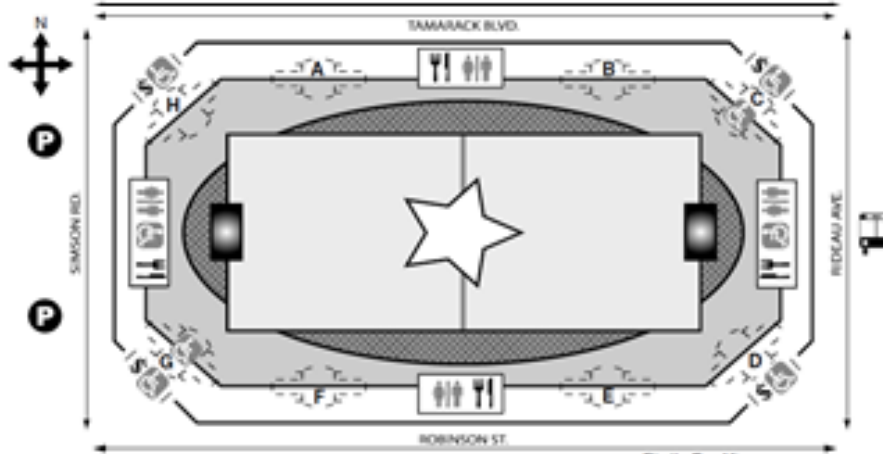
Ontario Secondary School Literacy Test

Read the selection below and answer the questions that follow it.

**SportsPlex Stadium Preliminary Design Proposal Submitted to City Council**

*This first drawing should give you an idea of the design for a multi-purpose sports facility. I will be happy to discuss hiring an engineer to develop a drawing to scale that will include the structure of the stadium's frame. I am looking forward to future discussions with you about design details and cost.*

*Respectfully, N. Gilmour, Architect*



Bird's-Eye View  
Drawing is not to scale

LEGEND	COST CONSIDERATIONS
Main seating area (20 000 seats)	<b>No Cost</b>
Track area and extra seating (10 000 seats)	• Land donation: value of \$1.2 million
Main field	• Existing municipal parking lot
Seating area entrance	<b>Cost of Current Design</b>
Sponsor logo (to be determined)	• Current seating capacity (15 000): \$4.6 million
Megavision video screens	<b>Additional Cost Considerations</b>
Nearby streets	• Upper balcony seating: \$800 000
Washrooms	• VIP box seats and lounge: \$300 000
Wheelchair accessible	• Rooftop lights: approximately \$100 000 (depending on roof materials)
Concessions	
Ticket booth and stadium entrance/exit	
Parking	
Bus transportation	

W02060012-2004

Ontario Secondary School Literacy Test Section 3: Reading

---


**Multiple-Choice** (Record the best or most correct answer on the Student Answer Sheet.)

1. The purpose of the italicized text under the title is to provide

- a a reason to hire an engineer.
- b an explanation of the structure.
- c an introduction to the proposal.
- d an overview of the design details.

2. In this selection, "Bird's-Eye View" means

- a a scale view.
- b a detailed view.
- c a structural view.
- d an overhead view.

3. What does the  indicate?

- a A star is the city's trademark.
- b A company can advertise here.
- c The roof has a star-shaped opening.
- d "The Stars" is the name of the sports team.

4. The arrows surrounding the building


- a indicate the visitor parking area.
- b direct spectators to the entrances.
- c show the streets next to the stadium.
- d designate the roofline of the stadium.

5. On which side of the stadium is the parking located?

- a north
- b south
- c east
- d west

6. Which of the following details does N. Gilmour expect to be a topic for future discussions with city council?

- a the purchase of land
- b the availability of parking
- c the number of video screens
- d the cost of including VIP box seats



10

Adapted from "Ontario secondary school literacy test April 2010: Released selections and test questions," by the Education Quality and Accountability Office, 2010, retrieved from <http://www.eqao.com/en/assessments/OSSLT/educators/Pages/educators.aspx>. Copyright 2010 by American Psychological Association.

## Appendix C

### *Student Questionnaire*

The student questionnaire was completed to gather background information on student language, education, standardized testing experience and general use of reading skills.



<p><b>Student Questionnaire NAME:</b> _____</p>	
<p><b>Background Information</b> (Record your answers on the Student Answer Sheet.)</p> <p>We need to know about your background, so we can see how students with different experiences do in this research study. Read each question carefully. If no answer seems exactly right, fill in the circle on the Student Answer Sheet with the response closest to what you want to say.</p>	
<p>Language Background</p>	
<p><b>1 a)</b> Is English the first language you learned at home?</p> <p>Y <u>Yes</u> N No</p>	<p><b>3</b> Indicate the number of grades of schooling in a language other than English that you have completed including pre-school and kindergarten (choose one only).</p>
<p><b>b)</b> What languages do you speak at home (choose one only)?</p>	<p><b>A</b> 0                      <b>J</b> 9</p>
<p><b>A</b> Only or mostly English</p>	<p><b>B</b> 1                      <b>K</b> 10</p>
<p><b>B</b> Another language (or languages) as often as English</p>	<p><b>C</b> 2                      <b>L</b> 11</p>
<p><b>C</b> Only or mostly another language (or other languages)</p>	<p><b>D</b> 3                      <b>M</b> 12</p>
<p><b>2</b> Indicate the number of grades of schooling in English you have completed including pre-school and kindergarten (choose one only).</p>	<p><b>E</b> 4                      <b>N</b> 13</p>
<p><b>A</b> 0                      <b>J</b> 9</p>	<p><b>F</b> 5                      <b>O</b> 14</p>
<p><b>B</b> 1                      <b>K</b> 10</p>	<p><b>G</b> 6                      <b>P</b> 15</p>
<p><b>C</b> 2                      <b>L</b> 11</p>	<p><b>H</b> 7                      <b>Q</b> 16</p>
<p><b>D</b> 3                      <b>M</b> 12</p>	<p><b>I</b> 8                      <b>R</b> 17 or more</p>
<p><b>E</b> 4                      <b>N</b> 13</p>	<p><b>Standardized Testing Experience</b></p>
<p><b>F</b> 5                      <b>O</b> 14</p>	<p><b>4</b> Indicate which standardized tests you have written in the past (choose all that apply).</p>
<p><b>G</b> 6                      <b>P</b> 15</p>	<p><b>A</b> I've written EQAO in Grade 3.</p>
<p><b>H</b> 7                      <b>Q</b> 16</p>	<p><b>B</b> I've written EQAO in Grade 6.</p>
<p><b>I</b> 8                      <b>R</b> 17 or more</p>	<p><b>C</b> I've written EQAO in Grade 9.</p>
	<p><b>D</b> I've written EQAO in Grade 10.</p>
	<p><b>E</b> I've written standardized tests outside of Ontario.</p>

Student Questionnaire	
<b>Home Computer Use</b>	
<p><b>5</b> Indicate how often you use a computer at home for homework (choose one only).</p> <p><b>A</b> I don't have a computer at home.</p> <p><b>B</b> I never or hardly ever use the computer for homework.</p> <p><b>C</b> I use the computer once or twice a month for homework.</p> <p><b>D</b> I use the computer once or twice a week for homework.</p> <p><b>E</b> I use the computer almost every day for homework.</p>	<p><b>g)</b> Novels, fiction, short stories Y Yes N No</p> <p><b>h)</b> Song lyrics, poems Y Yes N No</p> <p><b>i)</b> Religious or spiritual writings Y Yes N No</p>
<b>Reading</b>	
<p><b>6</b> Indicate the types of materials you read in English outside school most weeks.</p> <p><b>a)</b> Non-fiction books, e.g., biographies Y Yes N No</p> <p><b>b)</b> Comics Y Yes N No</p> <p><b>c)</b> Web sites, e-mail, chat messages Y Yes N No</p> <p><b>d)</b> Letters Y Yes N No</p> <p><b>e)</b> Magazines Y Yes N No</p> <p><b>f)</b> Newspapers Y Yes N No</p>	<p><b>7</b> Indicate the number of hours a week you read materials written in English outside school, not including your homework (choose one only).</p> <p><b>A</b> One hour or less</p> <p><b>B</b> More than one hour but less than three hours</p> <p><b>C</b> More than three hours but less than five hours</p> <p><b>D</b> Five hours or more</p> <p><b>8</b> Indicate what English-language materials you have at home.</p> <p><b>a)</b> Dictionaries, encyclopedias (print or electronic) Y Yes N No</p> <p><b>b)</b> Books Y Yes N No</p> <p><b>c)</b> Newspapers Y Yes N No</p> <p><b>d)</b> Magazines Y Yes N No</p>
2	

Adapted from "Ontario secondary school literacy test April 2010: Released selections and test questions," by the Education Quality and Accountability Office, 2010, retrieved from <http://www.eqao.com/en/assessments/OSSLT/educators/Pages/educators.aspx>, pp. 16-17. Copyright 2010 by American Psychological Association.

**Appendix D***2009 OSSLT Posttest*

Sample materials from the April 2009 OSSLT which acted as the posttest.

	
	
<b>NAME:</b> April 2009: POST-TEST	<b>BOOKLET</b> <b>1</b>
<b>Ontario Secondary School Literacy Test</b>	
<b>SESSION 1</b>	
<b>RELEASED SELECTIONS AND TEST QUESTIONS</b>	

## Section I: Reading

Grade 7 Secondary School Literacy Test

Read the selection below and answer the questions that follow it.

### Who ate pasta first?

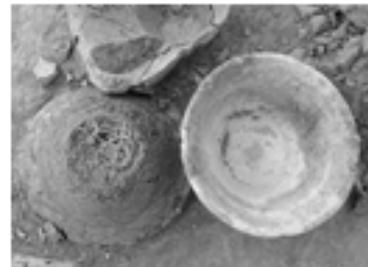
The October 2005 issue of *Nature* magazine reported that archaeologists found a 4000-year-old bowl of noodles at a site in western China. This discovery may be proof that China invented pasta.

"These are definitely the earliest noodles ever found," said **Houyuan Lu**, a researcher in Beijing who studied the ingredients of the perfectly preserved pasta.

The fist-sized clump of noodles was found inside an overturned bowl, which had protected the noodles from three metres of sediment. The delicate yellow noodle dough had been made from a local variety of millet instead of the usual wheat or rice grains. The dough had been pulled into 50-centimetre-long strands before being boiled. Archaeologists think that the noodles were buried during a flood that wiped out the **Qijia** culture in the late **Neolithic** era.

Are noodles another Chinese invention along with paper and gunpowder? This has been a hotly debated question. Some historians say the 13th century Italian explorer Marco Polo brought noodles from China back to his homeland. Another historical interpretation is that Italians had noodles before that time. Prior to the recent archaeological discovery, researchers only had information from written documents, personal accounts and menus: they had not been able to find any actual food to prove either hypothesis. This discovery may support the theory that noodles were first eaten in China.

The people who live where the ancient noodles were found still eat millet noodles today.



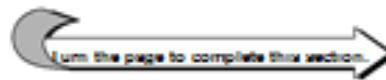
Copyright © 2005, Nature Publishing Group. All rights reserved. Reproduced with permission of the Copyright Clearance Center, Inc. All rights reserved.

## Section I: Reading

Grade 5 Secondary School Literacy Test

**Multiple-Choice (Record the best or most correct answer on the Student Answer Sheet.)**

1. A "hotly debated question" (paragraph 4) is a question that is
  - a. easy to answer.
  - b. rarely considered.
  - c. hard to think about.
  - d. passionately argued about.
2. Why is Marco Polo mentioned in this news report?
  - a. He is credited with inventing pasta.
  - b. He visited China in the 13th century.
  - c. He claimed the Italians invented pasta.
  - d. He brought noodles from Italy to China.
3. The information in paragraph 4 is organized to
  - a. compare and contrast ideas.
  - b. describe the steps in a process.
  - c. present events in chronological order.
  - d. provide details in order of importance.
4. What evidence do researchers consider most convincing in answering the question of the origin of noodles?
  - a. ancient menus
  - b. preserved food
  - c. personal accounts
  - d. written documents
5. The archeologists described in this selection
  - a. wrote a news report.
  - b. dug up an ancient object.
  - c. restored a prehistoric site.
  - d. discovered ways to preserve food.



**Section I: Reading**

Grade 7 Secondary School Literacy Test

**Written Answer**

6. Explain whether this archaeological find settles the historical question about who invented pasta. Use specific details from the selection and your own ideas to support your answer.

---

---

---

---

---

---

**Rough Notes**

*Use the space below for rough notes. Nothing you write in this space will be scored.*

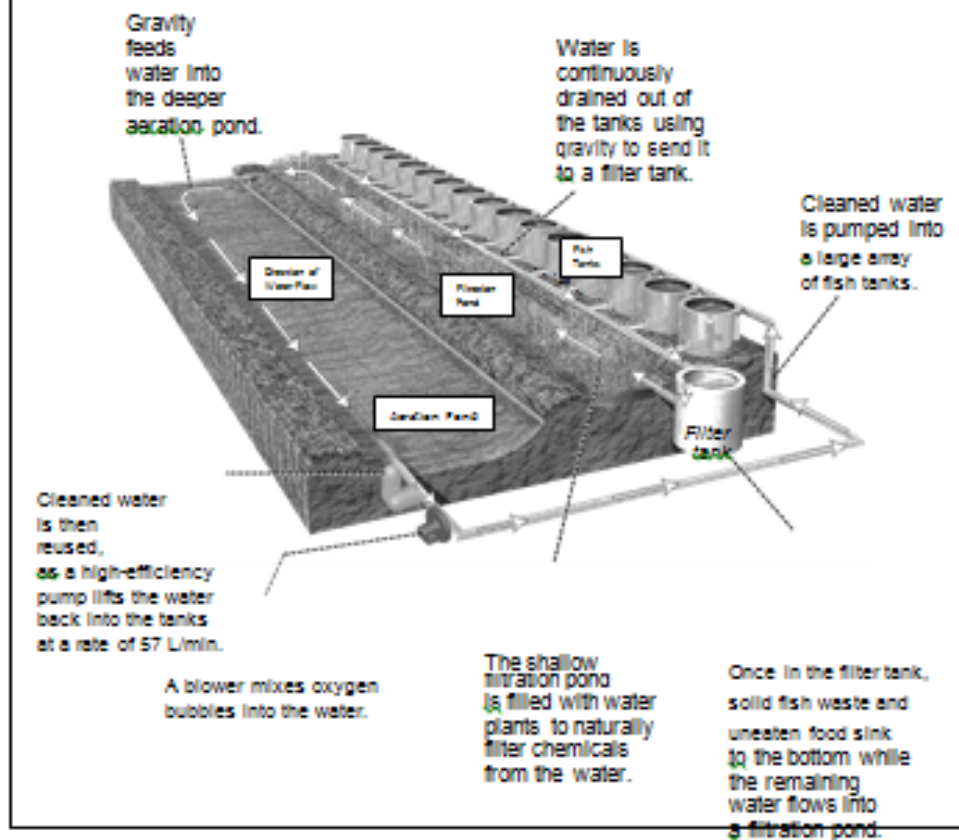


## Section V: Reading

Grade 7 Secondary School Literacy Test

Read the selection below and answer the questions that follow it.

## How an Eco-Friendly Fish Farm Operates



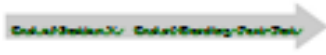
SelfCopyrighted by Smith, Copyright © 2020, Toronto, Ontario, Canada. Reproduction is permitted in the Canadian English Edition.

**Section V: Reading** Ontario Secondary School Literacy Test

---

**Multiple-Choice (Record the best or most correct answer on the Student Answer Sheet.)**

<p>1. The arrows in this selection show that the water flows</p> <ul style="list-style-type: none"> <li>a. through the ponds and out into the river.</li> <li>b. in a complete, closed loop throughout the farm.</li> <li>c. from the fish tanks directly into the aeration pond.</li> <li>d. from the filter tank directly back into the fish tanks.</li> </ul> <p>2. Two separate ponds are needed on this fish farm, so that</p> <ul style="list-style-type: none"> <li>a. fish have two areas in which to swim.</li> <li>b. there are two sources of fresh intake water.</li> <li>c. each pond can perform a different function.</li> <li>d. there are different habitats in which plants can grow.</li> </ul> <p>3. The purpose of the "shallow filtration pond" is to</p> <ul style="list-style-type: none"> <li>a. grow water plants.</li> <li>b. add oxygen into the water.</li> <li>c. drain solid waste from the water.</li> <li>d. remove chemicals from the water.</li> </ul> <p>4. A pump is necessary in the fish farm to make the</p> <ul style="list-style-type: none"> <li>a. clean water flow faster.</li> <li>b. fish move from tank to tank.</li> <li>c. oxygen bubbles move around.</li> <li>d. water move up into the fish tanks.</li> </ul>	<p>5. The effective operation of all components of the fish farm ensures that</p> <ul style="list-style-type: none"> <li>a. solid waste is used to feed plants.</li> <li>b. water in the filtration pond has sufficient oxygen.</li> <li>c. new water is added to the system at several points.</li> <li>d. the fish have a continuous supply of aerated water.</li> </ul> <p>6. The fish farm in this selection is "eco-friendly" because</p> <ul style="list-style-type: none"> <li>a. the farm reuses cleaned water.</li> <li>b. the farm uses organic fish food.</li> <li>c. geodesic is the only source of power.</li> <li>d. a blower mixes oxygen into the water.</li> </ul>
--	---



14

Adapted from "Ontario secondary school literacy test April 2009: Released selections and test questions," by the Education Quality and Accountability Office, 2009, retrieved from <http://www.eqao.com/en/assessments/OSSLT/educators/Pages/educators.aspx>, p. 1. Copyright 2009 by American Psychological Association.

## Appendix E

### 2010 OSSLT Pretest Student Answer Key

For your multiple-choice answers to be included in the calculation of your final results, they must be entered on this sheet.

- To indicate your answer, fill in the circle completely, as shown below.

Like this:  Not like this:

- If you fill in more than one circle for a question, the question will be scored incorrect.
- If you leave a question blank, the question will be scored 0.
- If you wish to change a multiple-choice answer, erase or cross out your answer and fill in the circle for your new answer.

### Student Answer Key

#### Section I Reading

- a  b  c  d R1b
- a  b  c  d R2c
- a  b  c  d R2b
- a  b  c  d R3b
- a  b  c  d R1c
- Respond in booklet R33

#### Section II Reading

- a  b  c  d R1b
- a  b  c  d R1d
- a  b  c  d R2b
- a  b  c  d R3a
- a  b  c  d R2b
- a  b  c  d R2d
- Respond in booklet R23

#### Section III Reading

- a  b  c  d R1b
- a  b  c  d R2b
- a  b  c  d R2b
- a  b  c  d R2c
- a  b  c  d R3c
- a  b  c  d R3d
- a  b  c  d R1b

- a  b  c  d R2b
- a  b  c  d R2d

#### Section IV Reading

- a  b  c  d R2b
- a  b  c  d R2d
- a  b  c  d R2d
- a  b  c  d R2b
- a  b  c  d R3d
- Respond in booklet R2
- Respond in booklet R3

#### Section V Reading

- a  b  c  d R3c
- a  b  c  d R1d
- a  b  c  d R2b
- a  b  c  d R2c
- a  b  c  d R2d
- a  b  c  d R2d

## Appendix F

## 2009 OSSLT Posttest Student Answer Key

For your multiple-choice answers to be included in the calculation of your final results, they must be entered on this sheet.

- To indicate your answer, fill in the circle completely, as shown below.

Like this:  Not like this:

- If you fill in more than one circle for a question, the question will be scored incorrect.
- If you leave a question blank, the question will be scored 0.
- If you wish to change a multiple-choice answer, erase or cross out your answer and fill in the circle for your new answer.

## 2009 Student Answer Sheet

## Section I Reading

- a  b  c  d R1d
- a  b  c  d R1b
- a  b  c  d R2a
- a  b  c  d R2a
- a  b  c  d R3b
- Respond in booklet R3

## Section II Reading

- a  b  c  d R3c
- a  b  c  d R2a
- a  b  c  d R1a
- a  b  c  d R1d
- a  b  c  d R2c
- a  b  c  d R2a
- Respond in booklet R2

## Section III Reading

- a  b  c  d R1c
- a  b  c  d R3d
- a  b  c  d R2c
- a  b  c  d R2c
- a  b  c  d R3b
- a  b  c  d R2b
- a  b  c  d R2d

- a  b  c  d R1b

- a  b  c  d R2b

## Section IV Reading

- a  b  c  d R2c
- a  b  c  d R2b
- a  b  c  d R3d
- a  b  c  d R2d
- a  b  c  d R2c
- Respond in booklet R2
- Respond in booklet R3

## Section V Reading

- a  b  c  d R3b
- a  b  c  d R2c
- a  b  c  d R1d
- a  b  c  d R2d
- a  b  c  d R2d
- a  b  c  d R2a

## Appendix G

### *Reliability and Validity Statistics*

The following tables summarize the 2009, 2010 and 2014 OSSLT reliability and validity statistics for the reading section scores and scoring accuracy and consistency of practice.

#### *Test Descriptive Statistics, Reliability and Standard Error of Measurement*

OSSLT Version	No. of Items	Item Type				Possible Max. Score	No. of Students	Min.	Max.	Mean	SD	R	SEM
		MC	OR	SW	LW								
2009 <sup>5</sup>	47	39	4	2	2	81	142 394	3.0	81.0	64.9	9.45	0.88	3.21
2010 <sup>6</sup>	47	39	4	2	2	81	142 955	2.0	81.0	63.7	9.44	0.89	3.17
2014 <sup>7</sup>	46	38	4	2	2	80	131 712	1.0	80.0	64.8	9.07	0.89	3.03

Note: MC = multiple choice; OR = open response (reading); SW = short writing; LW = long writing.

<sup>5</sup> Adapted from "EQAO's Technical Report for the 2008-2009 Assessments," by the Education Quality and Accountability Office, 2010, retrieved from <http://www.eqao.com/en/assessments/Pages/Technical-Reports.aspx>, p.94. Copyright 2010 by American Psychological Association.

<sup>6</sup> Adapted from "EQAO's Technical Report for the 2009-2010 Assessments," by the Education Quality and Accountability Office, 2011, retrieved from <http://www.eqao.com/en/assessments/Pages/Technical-Reports.aspx>, p.82 Copyright 2011 by American Psychological Association.

<sup>7</sup> Adapted from "EQAO's Technical Report for the 2013-2014 Assessments," by the Education Quality and Accountability Office, 2014, retrieved from <http://www.eqao.com>, upon request. Copyright 2015 by American Psychological Association.

*Validity Estimates for Reading*

OSSLT Version	Item Code	Section	Sequence	No. of Scores	% Exact-Plus-Adjacent	% Exact	% Adjacent	% Adjacent - Low	% Adjacent - High	% Non-Adjacent
2009 <sup>8</sup>	EQRE21427.116	I	6	10 069	98.6	69.8	29.0	10.7	18.3	1.1
	EQRE21398.113	V	7	12 947	94.3	79.6	14.7	4.9	9.9	5.7
	EQRE21474.120	IX	6	10 971	98.8	81.2	17.5	9.8	7.7	1.2
	EQRE21475.120	IX	7	10 328	99.7	79.7	20.0	8.2	11.8	0.3
	<b>Aggregate</b>			<b>32 414</b>	<b>97.7</b>	<b>77.8</b>	<b>19.9</b>	<b>8.2</b>	<b>11.7</b>	<b>2.3</b>
2010 <sup>9</sup>	EQRE32149.185	I	6	7 042	98.5	81.7	16.8	9.0	7.8	1.5
	EQRE32099.180	V	7	7 869	99.0	82.3	16.6	5.1	11.5	1.0
	EQRE232177.188	IX	6	7 797	99.4	72.3	27.2	15.3	11.8	0.6
	EQRE232178.188	IX	7	7 538	99.2	79.3	19.9	4.8	15.2	0.8
	<b>Aggregate</b>			<b>30 246</b>	<b>99.0</b>	<b>78.8</b>	<b>20.2</b>	<b>8.6</b>	<b>11.6</b>	<b>1.0</b>
2014 <sup>10</sup>	20824_499	IV	5	9 013	98.6	79.9	18.6	9.6	9.1	1.4
	20559_499	IV	6	7 226	99.8	89.6	10.3	4.8	5.5	0.2
	18681_482	NR	NR	8 268	99.1	85.5	13.6	6.6	7.0	0.9
	18649_495	NR	NR	7 907	99.8	89.1	10.7	5.2	5.4	0.2
	<b>Aggregate</b>			<b>32 414</b>	<b>99.3</b>	<b>85.7</b>	<b>13.5</b>	<b>6.7</b>	<b>6.8</b>	<b>0.7</b>

Note: NR = not released.

<sup>8</sup> Adapted from "EQAO's Technical Report for the 2008-2009 Assessments," by the Education Quality and Accountability Office, 2010, retrieved from <http://www.eqao.com/en/assessments/Pages/Technical-Reports.aspx>, p.46 Copyright 2010 by American Psychological Association.

<sup>9</sup> Adapted from "EQAO's Technical Report for the 2009-2010 Assessments," by the Education Quality and Accountability Office, 2011, retrieved from <http://www.eqao.com/en/assessments/Pages/Technical-Reports.aspx>, p.89. Copyright 2011 by American Psychological Association.

<sup>10</sup> Adapted from "EQAO's Technical Report for the 2013-2014 Assessments," by the Education Quality and Accountability Office, 2014, retrieved from <http://www.eqao.com>, upon request. Copyright 2015 by American Psychological Association.

*Inter-rater Reliability Estimates for Reading*

OSSLT Version	Item Code	Section	Sequence	No. of Pairs	% Exact-Plus-Adjacent	% Exact	% Adjacent	% Non-Adjacent
2009 <sup>11</sup>	EQRE21427.116	I	6	185 385	96.8	58.7	38.2	3.2
	EQRE21398.113	V	7	185 397	91.7	69.7	22.0	8.3
	EQRE21474.120	IX	6	185 473	96.9	67.1	29.8	3.1
	EQRE21475.120	IX	7	185 588	99.1	70.9	28.3	0.9
	<b>Aggregate</b>			<b>741 843</b>	<b>96.1</b>	<b>66.6</b>	<b>29.6</b>	<b>3.9</b>
2010 <sup>12</sup>	EQRE32149.185	I	6	184 712	97.2	64.4	32.8	2.8
	EQRE32099.180	V	7	184 712	97.6	74.4	23.2	2.4
	EQRE32177.188	IX	6	184 705	98.0	61.8	36.2	2.0
	EQRE32178.188	IX	7	184 706	98.5	63.3	35.2	1.5
	<b>Aggregate</b>			<b>738 835</b>	<b>97.8</b>	<b>66.0</b>	<b>31.9</b>	<b>2.2</b>
2014 <sup>13</sup>	20824_499	IV	5	174 769	96.9	57.8	39.1	3.1
	20559_499	IV	6	174 764	98.6	65.0	33.6	1.4
	18681_482	NR	NR	174 772	97.4	57.1	40.3	2.6
	18649_495	NR	NR	174 765	97.7	62.7	35.1	2.3
	<b>Aggregate</b>			<b>699 070</b>	<b>97.7</b>	<b>60.7</b>	<b>37.0</b>	<b>2.3</b>

Note: NR = not released.

<sup>11</sup> Adapted from “EQAO’s Technical Report for the 2008-2009 Assessments,” by the Education Quality and Accountability Office, 2010, retrieved from <http://www.eqao.com/en/assessments/Pages/Technical-Reports.aspx>, p.35. Copyright 2010 by American Psychological Association.

<sup>12</sup> Adapted from “EQAO’s Technical Report for the 2009-2010 Assessments,” by the Education Quality and Accountability Office, 2011, retrieved from <http://www.eqao.com/en/assessments/Pages/Technical-Reports.aspx>, p.97. Copyright 2011 by American Psychological Association.

<sup>13</sup> Adapted from “EQAO’s Technical Report for the 2013-2014 Assessments,” by the Education Quality and Accountability Office, 2014, retrieved from <http://www.eqao.com>, upon request. Copyright 2015 by American Psychological Association.

**Appendix H**

*Interventions At-A-Glance*

Lesson Number	Reading Skills			Text Type			Expectations	Balanced Literacy Strategies	Lesson Outline
	R 1	R 2	R 3	Graphic	Informational	Narrative			
<b>Pretest</b>	x	x	x	■	■	■	Students will be able to read a selection and then correctly identify explicitly and implicitly stated ideas and information through a multiple choice question format.	whole group discussion in English	pretest questionnaire
<b>1</b>	x		x			■	<p>Students will be able to read a selection and make connections to their own personal knowledge and experience through a multiple choice question format.</p> <p>Students will be able to correctly identify implicitly (indirectly) stated ideas and information and be able to apply what they've read to their own personal knowledge and experience through a short written response to a reading selection.</p> <p>Students will be able to correctly identify explicitly (directly) stated ideas and information and be able to apply what they've read to their own personal knowledge and experience through a short written response to a reading selection</p> <p>Students will identify (qualitatively and quantitatively) their literacy background information in the form of a questionnaire.</p> <p>Students will engage in multilingual dialogue to process reading skills</p> <p>Students will engage in an exploration of their cultural heritage, linking their ancestry to their understanding of literary culture.</p> <p>Students will engage in an exploration of English vocabulary in light of Canadian and multicultural traditions</p> <p>Students will begin an exploration of the parts of speech</p>	<p>application of reading texts to culture; exemplars</p> <p>high interest vocabulary building in English</p> <p>high interest vocabulary building in first language</p> <p>first language explicit teaching</p> <p>modeled and guided reading</p> <p>explicit teaching of reading strategies</p> <p>peer discussion in first languages</p> <p>peer descriptive feedback in first language</p> <p>higher order questioning word pairing and word walls</p>	<p>linking language cultures and heritage: Olympics</p> <p>vocabulary development</p> <p>assessment and key word vocabulary development</p> <p>oral language development and parts of speech</p> <p>types of text recognition: narrative</p> <p>word study and word origins</p>



Lesson Number	Reading Skills			Text Type			Expectations	Balanced Literacy Strategies	Lesson Outline
	R 1	R 2	R 3	Graphic	Information	Narrative			
2	x	x	x		■		Students will be able to read a selection and then correctly identify explicitly and implicitly stated ideas and information through a multiple choice question format.	first language explicit teaching peer discussion in first language	linking language cultures and heritage global: Olympics
3	x				■		<p>Students will be able to read a selection and make connections to their own personal knowledge and experience through a multiple choice question format.</p> <p>Students will be able to correctly identify implicitly (indirectly) stated ideas and information and be able to apply what they've read to their own personal knowledge and experience through a short written response.</p> <p>Students will engage in a multilingual dialogue to process reading skills.</p> <p>Students will engage in an exploration of their cultural heritage, linking their ancestry to their understanding of literary culture.</p> <p>Student will continue an exploration of English vocabulary in light of Canadian and multicultural traditions with a continued global focus.</p> <p>Students will explore the tradition of numbering according to Roman numeral protocols, linking this practice to cultural heritage.</p> <p>Students will begin an exploration of the parts of speech.</p>	peer descriptive feedback in first language explicit teaching of reading strategies higher order questioning high interest vocabulary building in English word walls and word pairing guided reading whole group discussion in English high interest vocabulary building in first language application of reading texts to culture; exemplars	identifying themes oral language development and parts of speech: idioms modeled and guided reading assessment and key word vocabulary development: factually explicit focus word study and word origins text recognition: narrative subtleties of language and transitional phrases explicit vs. implicit meanings

Lesson Number	Reading Skills			Text Type			Expectations	Balanced Literacy Strategies	Lesson Outline
	R 1	R 2	R 3	Graphic	Informational	Narrative			
4	x		x	■			<p>Students will be able to read a selection and then correctly identify explicitly and implicitly stated ideas and information through a multiple choice question format.</p>	<p>first language explicit teaching</p> <p>peer discussion in first language</p>	<p>text recognition: informational and narrative</p>
5	x	x	x		■		<p>Students will be able to read a selection and make connections to their own personal knowledge and experience through a multiple choice question format.</p> <p>Students will be able to correctly identify explicitly (directly) stated ideas and information and be able to apply what they've read to their own personal knowledge and experience through a short written response to a reading selection.</p> <p>Students will be able to correctly identify implicitly (indirectly) stated ideas and information and be able to apply what they've read to their own personal knowledge and experience through a short written response.</p> <p>Students will engage in a multilingual dialogue to process reading skills.</p> <p>Students will engage in an exploration of their cultural heritage, linking their ancestry to their understanding of literary culture: art.</p> <p>Student will continue an exploration of English vocabulary in light of Canadian and multicultural traditions with a Canadian context: Geography and Science.</p> <p>Students will explore the tradition of numbering according to Roman numeral protocols, linking this practice to cultural heritage.</p> <p>Students will continue an exploration of the parts of speech.</p>	<p>peer descriptive feedback in first language</p> <p>explicit teaching of reading strategies</p> <p>higher order questioning</p> <p>high interest vocabulary building in English</p> <p>word walls and word pairing</p> <p>modeled &amp; guided reading</p> <p>whole group discussion in English</p> <p>high interest vocabulary building in first language</p> <p>application of reading texts to culture; exemplars</p>	<p>geographic focus: national and provincial/ Ontario</p> <p>scientific focus: themes</p> <p>linking language cultures and heritage global: Olympics</p> <p>oral language development and parts of speech</p> <p>word study and word origins: UK/US</p> <p>homophones and commonly misused words: Latin &amp; Roman influences</p> <p>transitional phrases</p> <p>writing skills: summary</p> <p>assessment and key word vocabulary development: factually explicit focus</p> <p>subtleties of language</p>

Lesson Number	Reading Skills			Text Type			Expectations	Balanced Literacy Strategies	Lesson Outline
	R 1	R 2	R 3	Graphic	Informational	Narrative			
6	x		x	■	■	■	Students will be able to read a selection and then correctly identify explicitly and implicitly stated ideas and information through a multiple choice question format.	first language explicit teaching peer discussion in first language	text recognition: graphic informational and narrative
7	x	x	x		■		<p>Students will be able to read a selection and make connections to their own personal knowledge and experience through a multiple choice question format.</p> <p>Students will be able to correctly identify explicitly (directly) stated ideas and information and be able to apply what they've read to their own personal knowledge and experience through a short written response to a reading selection.</p> <p>Students will engage in a multilingual dialogue to process reading skills.</p> <p>Students will engage in an exploration of their cultural heritage, linking their ancestry to their understanding of literary culture: art.</p> <p>Student will continue an exploration of English vocabulary in light of Canadian and multicultural traditions with a Canadian context: Science &amp; Technology.</p> <p>Students will continue an exploration of the parts of speech.</p>	peer descriptive feedback in first language explicit teaching of reading strategies higher order questioning high interest vocabulary building in English word walls and word pairing modeled & guided reading whole group discussion in English high interest vocabulary building in first language application of reading texts to culture; exemplars	geographic focus: national and provincial/ Ontario scientific and technological focus: themes linking language cultures and heritage global: Olympics oral language development and parts of speech word study & word origins: UK/US homophones and commonly misused words: Latin and Roman influences transitional phrases: poetry writing skills: summary assessment and key word vocabulary development: factually explicit focus within cultural language: graphic organizers subtleties of language: manuals and directions the global spread of English & multicultural links to Ontario

Lesson Number	Reading Skills			Text Type			Expectations	Balanced Literacy Strategies	Lesson Outline
	R 1	R 2	R 3	Graphic	Informational	Narrative			
8	x	x	x	■			Students will be able to read a selection and then correctly identify explicitly and implicitly stated ideas and information through a multiple choice question format.	first language explicit teaching peer discussion in first language	text recognition: graphic informational and narrative
Posttest	x	x	x	■	■	■	<p>Students will be able to read a selection and make connections to their own personal knowledge and experience through a multiple choice question format.</p> <p>Students will be able to correctly identify explicitly (directly) stated ideas and information and be able to apply what they've read to their own personal knowledge and experience through a short written response to a reading selection.</p> <p>Students will be able to correctly identify implicitly (indirectly) stated ideas and information and be able to apply what they've read to their own personal knowledge and experience through a short written response.</p> <p>Students will engage in a multilingual dialogue to process reading skills.</p> <p>Students will engage in an exploration of their cultural heritage, linking their ancestry to their understanding of literary culture: art.</p> <p>Student will continue an exploration of English vocabulary in light of Canadian and multicultural traditions with a Canadian context: Technology.</p> <p>Students will explore the tradition of numbering according to Roman numeral protocols, linking this practice to cultural heritage.</p> <p>Students will continue an exploration of the parts of speech.</p>	peer descriptive feedback in first language explicit teaching of reading strategies higher order questioning high interest vocabulary building in English word walls and word pairing modeled & guided reading whole group discussion in English high interest vocabulary building in first language application of reading texts to culture; exemplars	technological focus: national and provincial/ Ontario oral language development and parts of speech word study and word origins: UK/US homophones and commonly misused words: Latin and Roman influences subtleties of language: directions, euphemisms, idioms and manuals geographic focus: the global spread of English and multicultural links to Ontario posttest next steps OSSLT

**Appendix I***Balanced Literacy Strategies*

Strategies	Groups	
	Sub-treatment	Treatment
Application of reading texts to culture; exemplars		•
Choral reading L2	•	•
Choral reading L1		•
Descriptive feedback L2 - peers	•	•
Descriptive feedback L1 - peers		•
Descriptive feedback L2 - teacher	•	•
Descriptive feedback L1 - teacher		•
Explicit teaching of reading strategies L2	•	•
Explicit teaching of reading strategies L1		•
Exposure to information technology for language exploration in L2	•	•
Exposure to information technology for language exploration in L1		•
Graphic organizers		•
Guided reading L2	•	•
Guided reading L1		•
High interest vocabulary building L2	•	•
High interest vocabulary building L1		•
Independent reading L2	•	•
Higher order questioning	•	•
L1 explicit teaching		•
Peer discussion L2	•	•
Peer discussion L1		•
Whole group discussion L2	•	•
Word walls	•	•
Word pairing		•