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Validation of the Reading Level Achievement Test of the English Language Center

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VALIDATION OF THE READING LEVEL ACHIEVEMENT TEST
OF THE ENGLISH LANGUAGE CENTER

by

Marina Vasilyevna Mikhaylova

A thesis submitted to the faculty of

Brigham Young University

2009

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of a thesis submitted by

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ABSTRACT

VALIDATION OF THE READING LEVEL ACHIEVEMENT TEST OF THE ENGLISH LANGUAGE CENTER

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This study investigated the validity of the Reading Level Achievement Test of the English Language Center (ELC) of Brigham Young University. Test validation is a complicated process that involves evaluation of various types of validity. It was beyond the scope of this study to investigate different types of validity of the Reading LAT. The present study was only focused on the exam's construct validity. In an effort to validate the LAT, various models of reading comprehension were examined with the purpose of defining the construct of academic reading comprehension. The TOEFL academic reading framework was chosen to be the construct of academic reading comprehension for the present study. The ELC's reading objectives and the Reading LAT items were compared to the construct of academic reading comprehension as defined in the TOEFL framework. The results of this comparison suggest that neither the current ELC reading objectives, nor the current ELC Reading LAT adequately measures students' academic reading comprehension as defined in the construct.

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In Memory of
Vasiliy Grigoryevich Mikhaylov

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CHAPTER ONE

Introduction

Background

Teaching English as a Second or Foreign Language (TESL or TEFL) has become a very popular profession in today's world due to the fact that English has become a *lingua franca* of international communication. A great number and variety of English courses are available to those who desire to learn English. The teachers of English across the world use various techniques and methods to ensure that students learn basic language skills such as listening, speaking, reading, and writing. In order to measure and evaluate the effectiveness of teacher instruction and student learning of those skills, language tests and assessments are designed and administered. Fair and effective language testing is an important objective for any language program. One of the primary ways to ensure a test's quality is through investigating its validity: the extent to which a test accurately reflects the ability measured.

The notion of test validity has been employed in the testing field for a long time. As a result, the concept of validity has been reviewed many times and has various definitions. According to the traditional definition of validity given by Kelly (1927), "The problem of validity is that of whether a test really measures what it purports to measure" (as cited in Weir, 2005, p. 12). This definition seems a little too general and vague. A more specific definition is given in the Standards for Educational and Psychological Testing (1999) where validity is defined as "the degree to which evidence and theory support the interpretation of test scores entailed by proposed uses of tests" (p. 9). Weir (2005) proposes a similar and narrower definition of validity as the extent to which test scores reflect test takers' true level

of language knowledge or skills. He suggests that validity is found in the scores of a given test instead of the test itself.

Weir (2005) also claims that validity is a multifaceted concept and that various types of evidence (or validity) are needed to establish overall validity of a given test. Some of the major types of test validity frequently discussed in the literature are content-related validity (whether the test measures an ample portion of the subject matter), construct-related validity (whether the test measures the trait it is designed to measure), predictive validity (assesses test-takers' likelihood of future success), consequential validity (encompasses various consequences of a test, such as social, academic, and washback) and face validity (whether the test-takers perceive the test as relevant and a "good" measure of their ability). The concept of construct validity has become so important in language testing that it has often been used as a superior term to all other kinds of validity. Moreover, no test can be considered valid without solid construct validity evidence.

A variety of definitions of construct validity exists in the literature creating some confusion about what it is. This paper employs the definition given by Bachman (1990) who stated: "Construct validity concerns the extent to which performance on tests is consistent with predictions that we make on the basis of a theory of abilities, or constructs" (p. 225). There are many constructs related to L2 learning. A few possible examples include oral proficiency, reading comprehension, listening comprehension, grammar knowledge, accuracy, etc.

It is beyond the scope of one study to address all aspects of validity in the attempt to validate a test. This study specifically focuses on the construct validity of the Reading Level Achievement Test (LAT) at the English Language Center (ELC) at Brigham Young

University (BYU). The ELC offers English as a second language instruction to the students from around the world. In an effort to ensure that students progress in their language ability and achieve language goals for each of the proficiency level at the ELC, LATs are administered at the end of each semester. Since it would be impossible to look at the validity of all LATs at once, this study specifically focuses on the Reading portion of the the LAT. Moreover, since the current ELC program includes five levels of proficiency, it would be very difficult to validate all five Reading LATs. Therefore, this study focuses on the upper levels of proficiency: Levels 4 and 5.

There is another important reason why this study only looks at the validity of the ELC Level 4 and 5 Reading LAT. The current ELC program is undergoing significant changes that will take place in the Fall Semester of 2009. The program will be divided into two separate tracks: the Foundations track and the Academic track. While the Foundations track will aim at helping ELC students develop basic proficiency in English, the Academic track will aim at helping students develop specific language skills necessary for successful academic studies in English-speaking medium of instruction. Given these changes, the ELC administration will review and revise its current objectives for each proficiency level. Each of the five current levels will be assigned to either the Foundations or the Academic track, which will require some change in their objectives. The change in the level objectives will inevitably result in changes in assessment in general and in the administration of the LATs specifically. The current Levels 4 and 5 are already oriented toward helping students develop academic English proficiency. However, the new Academic track will have three instead of two proficiency levels. Therefore, the current Level 4 and 5 LATs will have to be modified to address this shift. This study specifically focuses on validating the current Level

4 and 5 Reading LATs and how well they measure students' academic reading proficiency in order to determine what needs to be done to help the ELC make the transition from the current to the new academic instruction and testing.

Purpose of this Study

There are at least two major reasons to conduct an examination of the validity of the current ELC Level 4 and 5 Reading LATs. First of all, this study has the potential to provide valuable feedback about the overall effectiveness of the present ELC reading program: whether it is built on a foundation of a solid and valid construct of academic reading comprehension and whether its current reading objectives match the construct well. If the reading LAT is a valid and effective measure of the construct of academic reading comprehension then the LAT scores verify the effectiveness and validity of the current ELC reading objectives. However, if the current Reading LAT demonstrates a lack of validity, then this study will offer suggestions to the ELC administration concerning which reading objectives need to be kept, removed, or added to the future ELC reading program for the Academic track.

Second, verifying the validity of the reading LAT will provide useful insight into the effectiveness of existing reading assessment at the ELC. The results of this study will illustrate whether the current LAT measures all of the ELC reading objectives and whether each objective gets fair representation in the LAT. Confirming the validity of the LAT as an assessment instrument will also indicate that the test truly measures students' reading comprehension and readiness to go on to the next proficiency level. Consequently, conducting a validation study of the Reading LAT has great potential to provide useful feedback about the effectiveness of the present reading assessment and reading program at

the ELC. In addition, it has the potential to reveal directions for future improvement of the ELC Reading LAT.

Research Questions

The following are the research questions that guided this study and are the basis for establishing the validity of the current ELC Level 4 and 5 Reading LATs:

1. Are the ELC Level 4 and 5 Reading LATs a valid measure of the academic reading comprehension construct?
 - a. Are the ELC Level 4 and 5 reading objectives compatible with the academic reading comprehension construct?
 - b. Are the ELC Level 4 and 5 reading objectives adequately represented in the Level 4 and 5 Reading LATs?
 - c. Are the components of the academic reading comprehension construct adequately represented in the ELC Level 4 and 5 Reading LAT?

CHAPTER TWO

Literature Review

The focus of this study is the validity of the Reading LAT at the ELC. In order to validate this test it is necessary to define reading comprehension in general and specifically the construct of academic reading comprehension. The present review of the literature explores various models of reading and provides a working definition of the construct of academic reading comprehension.

Overview of Reading and Reading Comprehension

In today's world the ability to read and understand written material is absolutely essential to almost all individuals' educational, social and career opportunities. What does reading mean? Various dictionaries supply numerous definitions of reading. Most of these definitions use three common words: decoding, interpretation, and comprehension. Thus, reading essentially is a process that involves decoding, interpretation, and comprehension of written information.

Reading can also be approached from two different perspectives: process and product. The view of reading as a process focuses on what happens in a reader's brain as he is engaged in reading. This type of research is centered on the discovery and explanation of the actual process of reading: letter and word recognition, syntactic processing, lexical access, etc. In other words, reading process models focus on "how" a reader comprehends text: the way he approaches texts and the interaction between him and the text. The view of reading as a product, on the other hand, is centered on the outcomes of the reading process: understanding or comprehension of "what" is being read and comprehended. Hence, the view of reading as a product essentially focuses on reading comprehension.

Despite the fact that reading is often looked at from these two separate views (the process versus the product), these two concepts of reading are inherently connected: the reading product essentially is the outcome of the reading process. Moreover, in order to understand reading comprehension (the product) it is important to consider how a reader arrives there (the process). Therefore, the rest of this section is dedicated to the review of various models and taxonomies of the reading process in an effort to gain greater understanding of what reading comprehension is and how it needs to be measured.

Models of the Reading Process: Bottom-up, Top-down, and Interactive

In the past four decades reading researchers have searched for answers to such questions as: How do we learn to make sense of printed material? What processes are involved in reading? What helps us to become fluent readers? As the answers to such questions began to unfold, three major models to reading were developed: bottom-up, top-down, and interactive.

The bottom-up model characterizes reading as step-by-step identification and decoding of letters, words, phrases, clauses, sentences, paragraphs, and discourses. In other words, this model explains reading as a part-to-whole processing of a text. According to this view “the reader begins with the printed words, recognizes graphic stimuli, decodes them to sound, recognizes words, and decodes meaning” (Alderson, 2000, p.16). This is often called “phonics” approach to reading.

The proponents of the top-down model, on the other hand, argue that reading is essentially hypothesis testing in which the reader is engaged as he proceeds through the written text (Stanovich, 1980). Goodman (1967, 1982) also calls the top-down model a “psycholinguistic guessing game.” According to this approach, in decoding and interpreting

texts the readers are primarily guided by their goals, expectations, and background knowledge. Instead of focusing on letters, sounds, and words, the readers extract the meaning of the text with the use of the previously acquired knowledge of the topic. They make predictions prior to reading the passage and use those predictions to facilitate the interpretation of the material they are reading. In other words, according to this model reading is described as processing from whole to part. Thus, reading is a meaning-driven process or, in other words, meaning is brought to print and not derived from it.

Neither the bottom-up, nor the top-down approach gives a satisfactory explanation of what happens in the brain of a reader during the process of reading. As a result, a third type of a model of reading process emerged: the interactive model (also called the interactive compensatory model). This approach combines the elements of both the bottom-up and the top-down approaches and suggests that the lower-level processing skills, such as word and letter-recognition processes are just as important as the higher-level processing skills, such as the use of background knowledge and predicting. Stanovich (1980) suggests that the reader uses both higher- and lower-level processes and that “processes at any level can compensate for the deficiencies at any other level” (p. 36). Despite the fact that researchers are still somewhat divided about the issue of bottom-up and top-down processes, this model seems to offer the most complete explanation of the reading process (Anderson, 1999).

Models of the Reading Process: Unitary and Divisible

Another important question that is highly debated among researchers is whether reading comprehension should be considered a unitary process or a process divisible into separate component skills. Advocates of the unitary approach view reading comprehension as a holistic process and often refer to it as general reading competence. Rost (1993), for

example, claims that the subskills of reading comprehension are so intermingled in the process of reading (due to repeated practice) that it becomes virtually impossible to distinguish and measure them in isolation. Thus, he claims that reading comprehension should be considered a unitary process. In addition, Alderson (1990) challenged the idea of differentiation between higher and lower order reading skills altogether. He conducted a study involving two British language proficiency tests: The Test of English for Educational Purposes (TEEP) and the English Language Testing Service (ELTS) test. In this study 18 experienced ESL teachers were asked to decide what reading skills were being tested by the tests' items and whether those items tested higher or lower order reading skills. The results of this study indicated that there was little agreement among experienced reading instructors on what skills were being tested by the test items and whether the skills were of lower or higher order. Alderson (1990) concluded that even if the reading comprehension consists of separate skills, it is very difficult to isolate them. Thus, the proponents of the view of reading comprehension as a unitary process argue that it is a holistic process and reading skills are extremely difficult and even impossible to measure separate from one another.

However, not all researchers share this holistic unitary view of reading comprehension. A number of studies support the idea of divisibility of the reading comprehension into two or more components. These researchers claim that several factors influencing readers' ability to successfully read and comprehend written text can be identified and separated. One of these factors is vocabulary (Berkoff, 1979; Carver, 1992; Davis, 1968; Spearitt, 1972). Based on the review and analysis of the data gathered from these and other studies, Weir and Porter (1994) concluded, "*there does seem to be a strong case for considering vocabulary as a component separate from reading comprehension in*

general” (p. 5, authors’ original italics). At least one other factor was found to be separate from general reading ability by several researchers. This factor is inference (Davis 1968; Munby, 1978; Nickerson, 1994). In Nickerson’s study, 60 ESL students took a reading exam designed to test their reading comprehension. Four separate reading comprehension skills were tested in order to find out whether reading comprehension in ESL was a single or multifaceted construct. Factor analysis was performed in order to determine whether all four reading skills would account for the variability in students’ responses or just one of them. The result of this analysis “indicated that there were possibly four factors contributing to reading comprehension” (p. 58). She also determined that test questions designed to measure student’s inferencing skills accounted for the most variation in student’s responses and overall comprehension. Therefore, the results of this study suggest that inference is a factor separate from general reading comprehension and that reading comprehension is a multifaceted construct.

Even though the debate about the nature of reading comprehension is far from being resolved, viewing reading comprehension in terms of separate components might be preferable for testing purposes. According to Weir, Huizhong, and Yan (2000), “the apparent failure to separate skill components has encouraged some reading test developers to a random sampling of microlinguistic skills, i.e., skills at the lower level of reading” (p. 23). This kind of testing leads to low scores for some of the test-takers not as a result of their struggling with comprehension, but due to their scoring poorly on the items dealing with microlinguistic skills. Consequently, these kinds of tests fail to measure students’ reading comprehension as either a unified concept or one divisible into component skills. In addition, Alderson (2000) warns that the use of the unitary approach in the testing of reading

may result in neglecting to test all the relevant reading skills, which in turn, may lead to reading comprehension construct under-representation. Thus, at least in terms of testing and assessment of reading comprehension, the component view of reading may be more suitable than the unitary view.

Divisible Models of Reading

Although a number of researchers support the component view of reading comprehension, there seems to be little agreement as to which reading components and skills are to be included in the construct of reading comprehension. Moreover, various researchers propose very different number of reading components/skills essential to the definition of reading comprehension. Therefore, the rest of this chapter is dedicated to the review and comparison of some of the most well-known models of reading.

Two-component model of reading.

Hoover and Tunmer (1993) offered a two-component model of reading comprehension, sometimes referred to as *the simple view* of the reading ability. These researchers proposed that there are only two distinct and separable factors that account for variation in students' reading performance: word recognition and linguistic comprehension. They define word recognition as the process of accessing mental lexicon through recognizing word spelling. Linguistic comprehension, on the other hand, is the ability to answer questions about a narrative. The critics of the simple view, however, argue that such division is rather confusing, unspecific and broad (Urquhart & Weir, 1998).

Three-component models of reading.

Coady (1979) described reading comprehension as a combination of the three components. The first component is defined as conceptual abilities, which is essentially

readers' intellectual capacity. The second component is reader's process strategies, which is knowledge of the language system and the ability to use this knowledge. The last component of the Coady's model is background knowledge or world knowledge. One of the strengths of this model is the fact that it recognizes the importance of background knowledge as a significant contributing factor to reading comprehension. However, unlike Hoover and Tunmer's view, this model fails to recognize that word recognition is an essential element of reading comprehension.

Bernhardt (1991) proposed another three-componential model of reading comprehension. According to this model reading comprehension also consists of three major components: language (word structure and meaning, syntax, and morphology), literacy (knowing how to approach and comprehend text), and world knowledge. Even though the reading components in the Bernhardt's model are different from the components in Coady's model of reading comprehension, it displays a similar weakness: it does not acknowledge the importance of word recognition in the process of reading comprehension.

Multiple-component models of reading.

A number of researchers have developed various models of reading comprehension containing more than three components, often called skills or subskills. Davies (1968) proposed that reading comprehension can be broken into eight essential skills: recalling word meaning, drawing inferences about the meaning of a word in context, finding answers to questions answered explicitly in or in paraphrase, weaving together ideas in the content, drawing inferences from the content, recognizing a writer's purpose, attitude, tone and mood, identifying a writer's technique, and following a structure of a message.

Munby (1978) developed taxonomy of reading 'microskills' that has had a great influence in second language teaching and syllabus, material, and test design. Munby proposed the existence of nineteen skill-components of reading comprehension. Among these components are such skills as recognizing the script of a language, deducting the meaning and use of unfamiliar lexical items, understanding explicitly stated information, understanding information when not explicitly stated, understanding conceptual meaning, distinguishing the main ideas from supporting details, skimming, scanning to locate specifically required information, etc.

Grabe (1991) proposed a much more concise list of the component elements of the fluent reading process. His list contains the following six items: automatic recognition skills, vocabulary and structural knowledge, formal discourse structure knowledge, content/world background knowledge, synthesis and evaluation skills/strategies, and metacognitive knowledge and skills monitoring.

Urquhart and Weir (1998) offered a different model of reading comprehension built on the concepts of global and local level reading. Global reading implies understanding of the discourse topic and distinction between main ideas and supporting details, whereas local reading refers to word recognition, understanding of the lexical items and pronominal references. Urquhart and Weir proposed that reading comprehension is a compound of the following five reading skills and strategies: skimming, search reading, scanning, careful reading, and browsing.

Koda (2005) presented a fairly complete summary of various models and taxonomies of reading comprehension. As a result of her extensive examination of these models she offered a list of seven key-components for reading comprehension: decoding, vocabulary

knowledge, syntactic processing, text-structure knowledge, main-idea detection, background knowledge, and comprehension strategies. These component skills seem to recur in many of the mentioned above works and, therefore, add to the credibility of Koda's conclusions about what reading skills seem to be the most important in developing reading comprehension.

Purpose-driven models of reading.

TOEFL test developers have taken a somewhat different approach in their quest to define reading comprehension. This rather recent framework is specifically oriented toward academic reading comprehension. According to the TOEFL iBT Tips (2007), ETS designed TOEFL reading comprehension part based on the idea that there are three main academic reading purposes with the respective academic reading skills.

1. Reading to find information:
 - a. Scanning
 - b. Fluency and reading rate
2. Basic comprehension:
 - a. Main idea comprehension
 - b. Understanding of main points, important facts, and details
 - c. Vocabulary in context
 - d. Pronoun referents
 - e. Making inferences
3. Reading to learn:
 - a. Recognizing the organization and purpose of a passage
 - b. Understanding relationships between ideas

- c. Organizing information into a category chart or a summary in order to recall major points and important details
- d. Inferring how ideas throughout the passage connect

This framework is based on the idea that the reading test design should be guided by the reader purpose. It is built on the work of Enright, Grabe, Koda, Mosenthal, Mulcahy-Ernt, & Schedl (2000) which was specifically designed around the idea of “defining the construct of reading comprehension for assessment purposes “ (p.ii). This paper proposed that there are four distinct reading purposes in an academic setting: reading to find information, reading for basic comprehension, reading to learn, and reading to integrate information across multiple texts. The importance of reader purpose in the reading process and comprehension has been considered by a number of researchers in the field (Goldman, 1997; Perfetti, 1997; Urquhart and Weir, 1998).

Goldman (1997) emphasizes the importance of focusing on reader purpose in reading instruction. She suggests, “readers’ expectations about their task determine the knowledge and strategies that are brought to bear during comprehension process” (Goldman, 1997). According to Goldman, when students read a passage for a casual discussion, they are likely to focus on the text’s main ideas. Whereas, when reading for an essay exam, the reader is more likely to focus on the organization and the logical argument presented in the passage. Since the reader purpose seems to be an important consideration in reading instruction, it is bound to be important to the testing of reading.

Perfetti (1997) highlighted the importance of another type of reading, which involves reading of multiple texts. This type of reading is referred to as *documents model*. According to this model, reading of multiple texts encourages students to connect ideas presented in

various texts, which explore one topic from different points of view. This type of reading requires students to evaluate and integrate information across a number of texts. An example of this kind of reading would be reading a newspaper column and a published reply to the same column. Reading these types of materials is very common in college studies and, therefore, vital to individuals' academic success. Students are often required to explore multiple texts with various and often opposing perspectives as they prepare research papers and oral presentations. Therefore, reading and integrating information across multiple texts seems to be an essential academic reading skill and as such it needs to be represented in the testing of reading for academic purposes.

Urquhart and Weir (1998) suggested that there are at least five different types of reading that are distinct from each other in terms of purpose. These types of reading are skimming, search reading, scanning, careful reading, and browsing. The purpose of skimming is reading to understand the gist of a passage. The purpose of search reading is "locating information on predetermined topics" (p. 103). Scanning has a goal of reading selectively and finding very specific information, such a phone number in a phone directory. Careful reading is reading with the purpose to learn new information, for example reading a textbook. Browsing is the type of reading that doesn't involve a specific or clear reading goal: a reader may randomly skip some parts of a text and is likely to show "little attempt to integrate the information into a macrostructure" (p. 104). Urquhart and Weir emphasize that the assessment of reading for academic purposes should involve provision of clear purpose to every reading passage. They also argue that the purposes of testing should match the purposes of reading in real life.

Project DIALANG is another example of the “reading for real life purposes” approach. DIALANG is a diagnostic language assessment online program designed to test learners’ language proficiency in 14 European languages. The program provides learners with an opportunity to test themselves in reading, writing, listening, speaking, and grammar. In its approach to reading, DIALANG identifies five dominant reading purposes/intentions. Reading to locate information (functional) is its main focus; however, it recognizes the importance of the following four purposes: to learn, to extend one’s world view, to cultivate the mind (reflective); to analyze/judge/assess/evaluate/improve text (critical); and to relax, enjoy vicarious experiences, to enjoy language (aesthetic, recreational).

Despite some differences in number and definitions of reading purposes existing among the researchers mentioned above, the three reading purposes adapted by the TOEFL reading framework are present in some form or shape in all of the above approaches, except Perfetti’s. Therefore, there seems to be general agreement among a number of scholars not only on the importance of the idea of building the construct of academic reading comprehension around reading purposes, but also on the types of reading purposes. This agreement suggests the usefulness and validity of the concept of reading comprehension construct based on reading purposes in general and of the TOEFL reading framework specifically.

CHAPTER 3

Research Design

The focus of this study is the validity of the ELC Reading LAT. In an effort to investigate and establish the validity of the Reading LAT, several key questions have been identified:

1. Are the ELC Level 4 and 5 reading LATs a valid measure of the academic reading comprehension construct?
 - a. Are the ELC Level 4 and 5 reading objectives compatible with the academic reading comprehension construct?
 - b. Are the ELC Level 4 and 5 reading objectives adequately represented in the Level 4 and 5 Reading LATs?
 - c. Are the components of the academic reading comprehension construct adequately represented in the ELC Level 4 and 5 Reading LAT?

The present study's design is guided by the questions above. This chapter describes the methods and procedures for the study. First, a detailed description of the ELC's reading program and the current objectives for Level 4 and 5 are provided. Second, the ELC's Reading Level Achievement Tests (LATs) are described. Third, a working definition of the academic reading comprehension construct used for this study is given. Finally, specific procedures and data analysis is described.

Description of the ELC's Reading Program

The ELC program is designed to help students develop fluency in English. There is no lower limit in English proficiency for admission. The current program has 5 levels of proficiency, ranging from beginning to advanced and it focuses primarily on listening

comprehension, speaking, reading, writing, grammar, and U.S. culture. The main goal of the ELC program is to help adult students who are 17 years and older develop fluent, oral social communication skills, to prepare to study at the university level, or to improve employment and other opportunities (such as business and church). Overall, the ELC program can be roughly divided into two parts: Levels 1-3 and Levels 4-5. Levels 1-3 are mainly focused on helping students develop basic knowledge of and fluency in English, whereas Levels 4-5 are oriented toward helping students acquire more complex (including academic) skills and knowledge of English.

One of the aims of the ELC reading program is to provide a well-balanced reading program by ensuring that teachers spend 50% of their instructional time doing intensive reading activities and 50% doing extensive reading activities (Reading Resources, 2006). Intensive reading aims “to equip students with a ‘bag of tools’ or reading skills, such as skimming, scanning, previewing, schema activation, predicting, inferring, finding the main idea, finding details, that every student needs to develop to become a strategic reader” (English Language Center, 2006). Extensive reading is defined as reading of substantial amounts of narrative and expository texts (15-30 pages per day) suitable for the level of students’ language proficiency and designed to help them build fluency, automaticity, and confidence in reading. In addition, the program aims to promote students’ reading rate building and vocabulary acquisition: each proficiency level has a specific reading rate goal the students are expected to achieve in addition to the vocabulary lists developed for each book the students read in their level.

Another important feature of the ELC reading program is the set of specific goals and objectives for each proficiency level. These objectives vary from level to level becoming progressively more complex, yet having a certain amount of overlap. Reading objectives for each level are separated into two sets: the first are designed for intensive reading instruction and the second for extensive reading instruction. Intensive reading objectives include recognizing parts of speech and word parts, identifying vocabulary in context, identifying main ideas, and reading various types of texts such as biographies, narratives, etc. Extensive reading objectives include reading a certain number of pages with a certain percentage of word recognition appropriate for each proficiency level. In addition, each level of proficiency has a list of roots, prefixes, and suffixes students are expected to learn and recognize in words by the time they complete each reading level at the ELC. For a complete list of current ELC intensive and extensive objectives for Levels 4 and 5 see Appendix A.

Considering all five levels of proficiency in validating the Reading LAT would be well outside of the scope of this study. The current research focuses on the two upper levels of proficiency of the ELC: Levels 4 and 5 for two reasons. First, only the current ELC Levels 4 and 5 aim at helping students develop academic reading skills. Second, in the Fall semester of 2009 the ELC program will be divided into two separate programs: the Foundations English Program with the focus on basic language skills and the Academic Program with the focus on developing academic language skills. The existing ELC Levels 4 and 5 will become the basis for creating the new Levels A, B, and C in the Academic Program of the future ELC program. Therefore, focusing on validating the existing Level 4 and 5 Reading LATs seems most sensible and appropriate for the purposes of the current study and in the face of the upcoming changes at the ELC.

Description of the ELC's Reading LAT

Reading LATs are cumulative exams administered to the ELC students during the finals week of each semester and are designed to assess their reading comprehension. The exam is a paper-and-pencil test given in a multiple-choice format. Since it would be very difficult to design a test that examines students' extensive reading skills, the Reading LAT only measures their intensive reading skills. The test includes questions that assess students' understanding of vocabulary words appropriate for each level as well as the skills listed under the objectives for each level. The test lasts approximately 65 minutes. It is expected that those students who successfully complete the reading LAT should be ready for the next level of reading instruction. In the case of Level 4 students, it is expected that they will go on to Level 5. In the case of Level 5 students, it is expected that they will be ready for university studies in English, which implies successful reading of university-level texts.

Both the Reading LATs for Level 4 and 5 consist of 6 passages. Each passage is followed by 5 to 8 multiple-choice questions. The test questions cover various objectives listed for Levels 4 and 5 respectively. The objectives for these Levels are different, however some of them overlap. The objectives assessed in the Reading LAT for Levels 4 and 5 include such skills as recognizing parts of speech, reading comprehension, understanding vocabulary in context, identifying main ideas, recognizing topic sentences, locating referents, knowledge of roots/prefixes, the ability to infer information, etc. A complete list of Level 4 and 5 LAT objectives is given in Chapter 4. Not all objectives are covered on the exam, but all are expected to be taught in classrooms and the students are expected to achieve all of them. The total of 42 questions is included in Level 4 Reading LAT. Level 5 Reading LAT also

contains 42 questions. A more detailed description of the passages used in the ELC Level 4 and 5 Reading LATs are given below.

Level 4 LAT Reading Passages

The six passages for Level 4 vary in length from about 250 to 1125 words. Five of the six passages are consistent with the Level 4 reading difficulty with one of them taken directly from a narrative text that students read in Level 4 reading class. The sixth passage is taken from the Level 3 Reading LAT. The passages cover topics such as diving, health, diseases, and art. One of the passages is a short biography. The text lines in each passage are numbered so the students can easily find parts of the text and words which test questions refer to. Test questions cover the intensive reading objectives for Level 4 (see Appendix B for a sample passage and related items).

Level 5 LAT Reading Passages

The six passages for Level 5 vary in length from about 250 to 850 words. One of these passages is directly taken from a narrative text that students read in Level 5 reading class. Two of the six passages are taken from the Level 4 LAT. The passages explore such topics as diving, health, marine life, polar ice thinning, and biological control. The text lines in each passage are numbered so the students can easily find parts of the text and words which test questions refer to. Test questions cover the intensive reading objectives for Level 5 (see Appendix B for a sample passage and related items).

Description of the Academic Reading Comprehension Construct

Reading experts have proposed numerous ideas and theories of reading comprehension in the last four decades. Even though all of these theories are valuable and promote greater understanding of reading comprehension, the recent TOEFL reading

comprehension framework has been chosen to be the theoretical basis for the current study. According to this framework, there are three major purposes of reading comprehension with the respective skill-components:

1. Reading to find information:
 - a. Scanning
 - b. Fluency and reading rate
2. Basic comprehension:
 - a. Main idea comprehension
 - b. Understanding of main points, important facts, and details
 - c. Vocabulary in context
 - d. Pronoun referents
 - e. Making inferences
3. Reading to learn:
 - a. Recognizing the organization and purpose of a passage
 - b. Understanding relationships between ideas
 - c. Organizing information into a category chart or a summary in order to recall major points and important details
 - d. Inferring how ideas throughout the passage connect

Procedures and Data Analysis

The primary question of the current research aims to answer is whether the ELC Level 4 and 5 reading LATs are a valid measure of the academic reading comprehension construct. Three different analyses were conducted in order to establish the validity of the Reading LAT. First, the ELC's Reading Level 4 and 5 objectives were separately compared

with the components of academic reading comprehension construct. In order to do this, each level objective was matched to one of the three reading purposes described in the construct and then to a specific skill-component under one of those three reading purposes. For example, one of the ELC's Level 4 Reading objectives is scanning. Scanning is matched to the construct's reading purpose of *reading to find information* and to the skill of *scanning* identified under this purpose. The results of this comparison were presented in the form of a table that contains the count of how many ELC's reading objectives correspond to each of the component-skills of the construct. Thus, the information in the table illustrates how compatible the ELC Level 4 and 5 Reading objectives with the construct of academic reading comprehension.

The second analysis conducted in the current study involved the comparison of the ELC Reading Level 4 and 5 LAT items with the current ELC Level 4 and 5 reading objectives. Each Level 4 and 5 Reading LAT question was matched to one of ELC's current reading objectives for Level 4 and 5. For example, question 11 in the Level 5 Reading LAT asks: "What is the topic of this passage?" This test item then was matched to the ELC Level 5 reading objective of *main idea comprehension*. The results of the comparison were presented in the form of a table that contains the count of how many ELC Level 4 and 5 Reading objectives are being tested in the Level 4 and 5 Reading LATs. Consequently, the information in the table demonstrates whether or not the ELC Level 4 and 5 reading objectives are adequately represented in the Level 4 and 5 reading LATs.

Finally, the comparison of the items of the existing Level 4 and 5 Reading LATs with the components of the academic reading comprehension construct was conducted. Each Level 4 and 5 Reading LAT question was matched to one of the three reading purposes

described in the construct and then to a specific skill-component under one of those three reading purposes. For example, question 16 in the Level 4 Reading LAT asks: “What is the meaning of the word *artistry* in line 19?” This test item was then matched to the reading purpose of *basic comprehension* and to the skill of *vocabulary in context*. The results of this comparison were organized into a table that contains the count of how many ELC Level 4 and 5 Reading LAT items correspond to each of the component-skills of the construct. Thus, the information in the table illustrates whether the components of the academic reading comprehension construct adequately represented in the ELC Level 4 and 5 Reading LAT?

In order to assess the compatibility of the Reading LAT items with the ELC’s reading program objectives with the reading comprehension construct an evaluation of the information presented in these tables was conducted. The results of this evaluation indicated the existing matches and gaps between the construct of reading comprehension and ELC’s reading objectives and Reading LAT items. These results are discussed in chapter 4 of this study. Chapter 5 offers conclusions and recommendations for future improvement of the ELC’s reading objectives and Level 4 and 5 Reading LATs.

CHAPTER 4

Results and Discussion

This chapter presents the results of the validation of the ELC Reading LAT. The first section discusses the compatibility of the ELC Reading objectives for Level 4 and 5 with the construct of academic reading comprehension. The second section presents the findings of the comparison of the ELC Level 4 and 5 Reading LATs to the ELC Level 4 and 5 Reading objectives. The last section discusses how the ELC Reading Level 4 and 5 LAT items compare to the construct of academic reading comprehension.

ELC Reading Objectives versus Academic Reading Comprehension Construct

ELC Reading objectives for levels 4 and 5 include a broad range of goals that include reading skills such as main idea comprehension and vocabulary from context and also specific reading rate and comprehension aims such as 80% comprehension of main ideas and supporting details and reading at the rate of 225 to 250 words per minute. Moreover, the ELC reading objectives are divided into two sets: intensive and extensive reading objectives. The intensive reading objectives are defined as specific reading skills, such as skimming, scanning, making inferences, etc. The extensive reading objectives have to do with reading a certain amount of expository and narrative texts during each semester. Since the extensive reading objectives cannot be directly tested, this research only considered the intensive reading objectives.

On the other hand, the academic reading comprehension construct definition used in the current study includes three major reading purposes with respective reading skills. The first of these is reading to find information: scanning and increasing reading fluency and rate. The second purpose is basic comprehension: main idea comprehension, major points,

important facts and details, vocabulary in context, pronoun references, and making inferences. The third purpose is reading to learn: recognizing the organization and purpose of a passage, understanding relationships between ideas, organizing information into a category chart or a summary, and inferring how ideas throughout the passage connect.

A number of ELC objectives correspond with the three purposes of reading identified in the construct of reading comprehension. Table 1 presents a summary of how Level 4 and 5 reading objectives relate to the construct of academic reading comprehension. Both reading skills mentioned under the reading to find information purpose (scanning and fluency/rate) are found among the ELC Level 4 and 5 reading objectives.

The basic comprehension purpose part of the construct is also fairly well represented in the ELC Level 5, but not Level 4 objectives. All of the skills under the basic comprehension purpose are found among Level 5 objectives. However, only three out of five component skills of this part of the construct are mentioned among Level 4 objectives: main ideas, vocabulary in context, and making inferences.

The third reading comprehension construct purpose (reading to learn) is not well represented in the ELC reading objectives. Recognizing the organization and purpose of a passage is the only skill mentioned among the ELC Level 4 reading objectives. Whereas, the skills of understanding relationships between ideas, organizing information into a category chart or a summary, and inferring how ideas throughout the passage connect are not found among the Level 4 reading objectives (See Table 1 for more details). Two out of four reading to learn types of skills are found among the ELC Level 5 objectives. The two missing objectives are understanding relationships between ideas and inferring how ideas connect. Overall, in order for the ELC reading objectives to meet the demands of the

academic reading construct, the reading to learn types of skills need to be better represented in the ELC reading objectives.

Table 1

Comparison of the Academic Reading Comprehension Construct with the ELC Level 4 and 5

Reading Objectives

Reading Comprehension Construct Skills	Number of ELC Objectives	
	Level 4	Level 5
Reading to find information		
Scanning	1	1
Fluency/rate	1	1
Basic comprehension		
Main idea comprehension	1	1
Main points, facts, and details	0	1
Vocabulary in context	1	1
Pronoun referents	0	1
Making inferences	1	1
Reading to learn		
Recognize organization and purpose of the passage	1	4
Understanding relationships b/w ideas	0	0
Organizing information into charts or summary	0	1
Inferring how ideas connect	0	0

ELC Reading LAT versus ELC Reading Objectives

Reading LAT is an achievement test administered to the ELC students at the end of each semester with the purpose of assessing whether students have achieved the level objectives and are ready to move on to the next proficiency level at the ELC. Both Level 4 and 5 LATs consist of 6 reading passages and 42 questions.

The comparison of the ELC Level 4 Reading LAT with the ELC Level 4 Reading objectives revealed several important concerns. First, only five of the eleven Level 4 objectives are being tested in the LAT: main ideas, vocabulary from context, discourse markers, inferences, and knowledge of stems and affixes. Second, there is a lack of balance in the testing of these skills: main ideas and vocabulary from context get tested heavily (9 and 8 test items) compared to the other three skills (only 2 test items each). Third, even though identifying pronoun referents and comprehension questions that include stated and unstated details are not found among the ELC Level 4 Reading objectives (but are included among Level 5 objectives) they are nevertheless being tested in the Level 4 Reading LAT. Moreover, the skill of comprehending questions that include stated and unstated details is by far the most tested skill of the Level 4 LAT: it is being assessed in the 17 out of 42 test items. Therefore, the ELC Level 4 Reading objectives do not appear to be well tested in the ELC Level 4 Reading LAT.

The comparison of the ELC Level 5 Reading LAT with the ELC Level 5 Reading objectives also revealed several significant concerns. Level 5 Reading objectives consist of the eleven Level 4 objectives plus thirteen new objectives. However, only eight objectives are being tested in the Level 5 Reading LAT. Moreover, five of these eight skills are being tested to a greater degree than the other three. Comprehension of main ideas is tested in four

LAT items, vocabulary from context in seven items, inferences in four items, questions that include stated and unstated details in nineteen items, and pronoun referents in five items. Finally, despite the fact that Level 4 Reading objectives include thirteen new objectives in addition to the Level 4 objectives, only three new objectives are being tested in Level 5 Reading LAT. These findings suggest that the Level 5 Reading LAT does not appear to be a good instrument in the assessment of the ELC Reading objectives. Table 2 summarizes the results of the comparison of the ELC LAT to the ELC objectives.

Table 2

Comparison of the ELC Level 4 and 5 Reading Objectives with the ELC Level 4 and 5 Reading LAT Items

ELC Intensive Reading Objectives	Number of LAT Items	
	Level 4	Level 5
Level 4 & 5		
Preview and predict	0	0
Scanning	0	0
Skimming	0	0
Main ideas	9	4
Vocabulary from context	8	7
Identify discourse markers	2	1
Restatement	0	0
Make inferences	2	4

Table 2 (continued)

ELC Intensive Reading Objectives	Number of LAT Items	
	Level 4	Level 5
Level 4 & 5		
Read level appropriate passages at the rate of 225 to 250 words per minute with 80% comprehension of main ideas and supporting details and with 90% word recognition	0	0
Read newspaper articles at least twice a week. Read the following genres: expository, including comparison and contrast, cause and effect, persuasion, and process	0	0
Improve knowledge of stems and affixes	2	1
Level 5		
Organization of ideas	0	0
Comprehension questions that include stated and unstated details	17	19
Pronoun referents	2	5
Transition questions	0	0
Vocabulary questions	0	0
Tone, purpose or course	0	1
Study patterns of organization	0	0
Take notes	0	0
Summarize	0	0
Outline	0	0

Table 2 (continued)

ELC Intensive Reading Objectives	Number of LAT Items	
	Level 4	Level 5
Level 5		
Distinguish between fact and opinion	0	0
Understand argument	0	0
Read level appropriate passages and stories at the rate of 250 to 270 words per minute with 80% comprehension of main ideas and supporting details and with 90% word recognition	0	0
Total number of LAT questions	42	42

ELC Reading LAT versus Academic Reading Comprehension Construct

This section is dedicated to the comparison of the ELC Level 4 and 5 Reading LATs to the construct of academic reading comprehension. Each LAT item was matched with a component of the construct. This evaluation revealed several concerns about how well the academic reading comprehension construct is represented in the existing Reading LAT.

Three significant problems were discovered upon the evaluation of the ELC Level 4 LAT. Table 3 contains the summary of this evaluation. First, there are no items on the test that assess students' reading to find information skills. Second, most test items deal with only one out of three reading purposes identified in the construct: assessing students' basic reading comprehension. Thirty-eight out of 42 questions of the Level 4 LAT are measuring students' basic comprehension. Third, only two of the 42 test questions are assessing

students' reading to learn ability. Finally, three out of eleven reading skills identified in the construct get tested heavily: main idea comprehension, main points, facts, and details, and vocabulary in context. The other eight skills either get two test items or no items at all.

The evaluation of the ELC Level 5 Reading LAT yield similar results. None of the current test items assesses reading to find information part of the construct. Whereas, the majority of the test items deal with only one type of reading purpose specified in the construct: basic reading comprehension. In this case 39 out of 42 questions measure students' basic comprehension. Additionally, only two of the 42 test questions are assessing students' reading to learn ability. Finally, five out of eleven reading skills identified in the construct get tested heavily: main idea comprehension, main points, facts, and details, vocabulary in context, pronoun referents, and making inferences. The other six skills either get only one test item or none at all.

Table 3

The Comparison of the ELC Level 4 and 5 Reading LAT Items with the Construct of Academic Reading Comprehension

Reading Comprehension Construct Skills	Number of LAT Items	
	Level 4	Level 5
Reading to find information		
Scanning	0	0
Fluency/Rate	0	0
Basic comprehension		
Main idea comprehension	9	4
Main points, facts, and details	17	19

Table 3 (continued)

Reading Comprehension Construct Skills	Number of LAT Items	
	Level 4	Level 5
Basic comprehension		
Vocabulary in context	8	7
Pronoun Referents	2	5
Making Inferences	2	4
Reading to learn		
Recognize organization and purpose of the passage	0	1
Understanding relationships b/w ideas	2	1
Organizing information into charts or summary	0	0
Inferring how ideas connect	0	0
Other ELC objectives	2	1
Total number of LAT questions	42	42

CHAPTER 5

Conclusion

The purpose of this chapter is to answer the research questions presented in Chapter 1 and to discuss implications and limitations of this study. First, the answers to the research question are addressed using the results of the analysis conducted in Chapter 4. Then, implications for curriculum development and testing improvement are offered along with limitations of the current study.

The research question that guided this study and is the basis for establishing the validity of the ELC Level 4 and 5 Reading LATs is:

1. Are the ELC Level 4 and 5 reading LATs a valid measure of the academic reading comprehension construct? This question is further divided into the following questions.
 - a. Are the ELC Level 4 and 5 reading objectives compatible with the academic reading comprehension construct?
 - b. Are the ELC Level 4 and 5 reading objectives adequately represented in the Level 4 and 5 Reading LATs?
 - c. Are the components of the academic reading comprehension construct adequately represented in the ELC Level 4 and 5 Reading LAT?

Findings

Are the ELC Level 4 and 5 reading LATs a valid measure of the academic reading comprehension construct? This question is further divided into three questions, addressed separately.

- a. Are the ELC Level 4 and 5 reading objectives compatible with the academic reading comprehension construct?

The evaluation of the ELC reading objectives revealed their insufficient compatibility with the construct of academic reading comprehension. The construct is divided into three major areas: reading to find information, basic comprehension, and reading to learn. Both ELC Level 4 and 5 reading objectives contain skills designed to train students to find information. Thus, reading to find information skills are well represented in the ELC reading objectives.

The basic comprehension part of the construct is well represented in Level 5, but not Level 4 Reading objectives. All of the skills under the basic comprehension purpose are found among Level 5 objectives. But only three out of five component skills of this part of the construct are found among Level 4 objectives. Consequently, the skills located under the basic comprehension part of the academic reading construct are not well represented in the ELC objectives for Level 4.

The reading to learn part of the construct is not well represented in either Level 4 or Level 5 Reading objectives. There is only one skill in Level 4 objectives that corresponds to the reading to learn purpose. And there are only two reading skills in Level 5 objectives that match this part of the construct. Thus, the ELC Reading objectives do not measure well students' ability to read ability to learn. Overall, the ELC Level 5 Reading objectives appear

to be more compatible with the construct of academic reading comprehension than the Level 4 objectives. However, neither Level 4, nor Level 5 objectives contain all the necessary skill objectives to adequately and fully measure ELC students' academic reading comprehension.

- b. Are the ELC Level 4 and 5 reading objectives adequately represented in the Level 4 and 5 reading LATs?

The evaluation of the ELC Level 4 and 5 reading objectives revealed their significant incompatibility with the ELC Level 4 and Level 5 Reading LATs. Several concerns were discovered as a result of the comparison of the Level 4 LAT with Level 4 objectives. Only five of the eleven Level 4 objectives are being tested in the Level 4 LAT. Two of the tested skills are being assessed to a much larger extent than the rest. In addition, two of the skills tested in the Level 4 LAT are not mentioned among the Level 4 objectives, but are found among the Level 5 objectives. Moreover, one of these two skills is by far the most tested skill of the Level 4 LAT: it is being assessed in the 17 out of 42 test items. These findings suggest that the ELC Level 4 Reading objectives are not being fairly represented in the ELC Level 4 Reading LAT.

The comparison of the ELC Level 5 Reading LAT with the ELC Level 5 Reading objectives revealed similar concerns. Only eight out of twenty four Level 5 objectives are being tested in the Level 5 Reading LAT. Furthermore, five of these eight skills are being tested to a greater degree than the other three. Finally, even though Level 5 Reading objectives include thirteen new objectives in addition to the eleven Level 4 objectives, only three new objectives are being tested in Level 5 Reading LAT. Therefore, these findings recommend that the Level 5 Reading LAT is not an adequate measure of the ELC Reading objectives.

Thus, the ELC Level 4 and 5 reading objectives do not appear to be fairly represented in either Level 4 or Level 5 reading LAT. Consequently, the ELC LAT cannot be considered a good measure of students' academic reading comprehension as defined by the ELC objectives.

- c. Are the components of the academic reading comprehension construct adequately represented in the ELC Level 4 and 5 Reading LATs?

The evaluation of the ELC Level 4 and 5 Reading LATs revealed their inadequate compatibility with the construct of academic reading comprehension. The examination of the ELC Level 4 LAT resulted in the detection of three major concerns. First, not a single test item assesses students' reading to find information ability. Second, almost all of test items deal only with one of three reading purposes identified in the construct: assessing students' basic reading comprehension. Third, only two of the 42 test questions are assessing students' reading to learn ability. Finally, three out of eleven reading skills identified in the construct get tested to a large extent, while the other eight skills are either tested insufficiently or not at all. Hence, the components of the academic reading comprehension construct are not well represented in the ELC Level 4 Reading LAT.

The evaluation of the ELC Level 5 Reading LAT produced similar outcomes. None of the current test items assesses students' ability to read with the purpose of finding information. Moreover, the overwhelming number of the test items assess students' reading ability related to only one type of reading purpose specified in the academic reading construct: basic reading comprehension. In addition, only two of the 42 test questions are assessing students' reading to learn ability. Finally, five out of eleven reading skills identified in the construct get tested heavily while the other six skills either get tested

insufficiently or not at all. Therefore, these results indicate that the components of the academic reading comprehension construct are not fairly represented in either Level 4 or 5 Reading LAT.

In summary, the comparison of the ELC's current Level 4 and 5 Reading LATs with the ELC's current Level 4 and 5 reading objectives and with the construct of academic reading comprehension revealed significant incompatibility of the current reading LAT with both the objectives and the construct. Moreover, the ELC's current Level 4 and 5 reading objectives fail to measure all the necessary academic reading skills included in the construct of academic reading comprehension. Thus, both the Reading LATs and the reading objectives display a major case of construct under-representation, a situation where "the content of the test does not adequately reflect the breadth or depth of the *construct* as defined for the purposes of the test" (Fulcher & Davidson, 2007: p. 370). Consequently, this means that the current ELC's Reading LAT is not a fair or adequate instrument in measuring students' academic reading comprehension. Thus, the outcome of the present study suggests that the ELC Level 4 and 5 LATs display a significant lack of construct validity and are in need of thorough revision.

Implications for ELC Curriculum

This study provided evaluation and insight into the validity of the current ELC Level 4 and 5 Reading LATs. The apparent lack of construct validity of the current Reading LAT due to the construct under-representation implies the need to implement changes not only in the test content, but also into the ELC's reading program and objectives. This need for a change becomes even more apparent since the ELC program is currently undergoing a transition focused on dividing the existing program into two separate programs: Foundations

Program and Academic Program. First of all, in creating the new Academic Program the ELC administration needs to choose a solid reading construct focused on academic reading goals and purposes. In order to do that, the revised reading objectives for the new Academic Program need to be built around a solid reading construct focused on academic reading goals and purposes. The current study suggests that the TOEFL academic reading framework is a suitable option for developing new reading objectives for the ELC's Academic Program, because this framework is built around specific reading purposes and skills necessary for students' survival and success in academic studies in English.

Second, the existing ELC reading objectives need to be compared to the construct of academic reading comprehension and be revised to fit the construct. Since some parts of the academic reading comprehension construct (as defined in the TOEFL reading framework) are not included in the current ELC reading objectives for Levels 4 and 5, new reading objectives need to be added to address those gaps. To be more specific, the following four academic reading skills are not currently included in the existing Level 4 reading objectives: comprehension of main points, facts, and details, pronoun referents, understanding relationships between ideas, and organizing information into charts or summary. In addition, one academic reading skill is not included in the existing Level 5 objectives: understanding relationships between ideas. On the other hand, some of the current ELC reading objectives do not seem to directly correspond to any parts of the construct of academic reading comprehension. These include preview and predict, skimming, restatement and reading newspaper articles and other genre for Level 4 reading objectives and learning word parts and word endings for Level 5 reading objectives. Perhaps, current ELC reading objectives need to be divided into two sets: terminal objectives (measurable outcomes) and enabling

objectives (instructional objectives that aid in achieving terminal objectives). Since the objectives mentioned above are not directly related to the academic reading comprehension construct, they may need to be listed as enabling objectives.

Third, the new reading objectives need to be specified and explicitly defined for the reading teachers at the ELC. The current ELC Reading Handbook does not include any definitions for the present reading objectives. Instead, it refers teachers to the textbook that was used in the instruction of reading at the ELC several years ago and is not currently used as a primary source of reading instruction. In order for the ELC reading teachers to successfully teach academic reading skills to the students, they need to have a good understanding of each of those skills. Therefore, it is the responsibility of the ELC administration to provide the teachers with clear and detailed definitions of each of the reading skills included in the list of the ELC reading objectives.

Implications for ELC Testing

In terms of future ELC testing, test developers need to address several significant concerns in order to make sure that the new reading LAT is a valid measure of students' academic reading comprehension. First, as discussed above, a solid academic reading comprehension framework needs to be chosen to guide test developers at the ELC in their effort to revise and to write new LAT items for the new Academic Program.

Second, test developers need to make sure that the new LATs assess all of the reading skills and objectives included in construct of academic reading comprehension. This means that the questions that measure the following types of academic reading skills need to be added to the current Level 4 LAT: scanning, fluency and rate, recognizing organization and purpose of the passage, organizing information into charts or summary, and inferring how

ideas connect. The questions that measure all of these skills except *recognizing organization and purpose of the passage* also need to be added to the Level 5 LAT in order to make it more compatible with the construct of academic reading comprehension.

Finally, the current Level 4 and 5 Reading LATs display very uneven spread of ELC reading objectives among the test questions. Some objectives get tested extensively (for example, main idea comprehension), while others receive comparatively little attention (for instance, making inferences). In order to ensure that the academic reading comprehension construct is fairly represented in the ELC LAT, it is essential that the new LATs assess reading objectives adequately: each objective is tested by more than one test item and no objective significantly dominates in the number of corresponding test items (as in the current LAT does).

Suggestions for Future Research

Several steps can be taken in the future to assess and improve the validity of the Reading LAT at the ELC. First of all, validity is a multifaceted concept. Therefore, various types of validity evidence can be used in LAT validation in addition to the one explored in the current study. These include face validity, content validity, concurrent validity, predictive validity, etc. Moreover, in order to receive a more complete construct-related validity evidence of the ELC Reading LAT it is absolutely essential to determine whether the passages used in the LAT have appropriate levels of text difficulty. Therefore, conducting a text difficulty analysis for the ELC Reading LAT will result in a more comprehensive evidence of its overall validity.

Second, this study does not address the question of how to insure that each reading objective receives fair representation in the Reading LAT. Is there a specific number or

percentage of test items each objective should cover? What are some of the possible ways to determine whether an objective is well represented in a test? Finding the answers to these questions and applying them to the validation of the reading LAT could significantly strengthen the results of ELC Reading LAT validation.

Finally, there is another way to improve the future ELC Reading LAT validation efforts. Conducting test item analysis to determine each test's item difficulty and discrimination values is another important way to verify the overall validity of the test. It was beyond the scope of the current study to conduct such evaluation. However, conducting this type of evaluation will help ELC administration learn which LAT items are too easy or too difficult for the students and which items do not discriminate well between students with higher and lower reading proficiency. Having this information will help ELC administration improve Reading LAT validity and overall quality.

In conclusion, this study attempted to assess the construct validity of the ELC Level 4 and 5 Reading LATs. As a result of this assessment, the Reading LAT failed to prove to be a valid instrument in measuring ELC students' academic reading comprehension. The results of the current study suggest that the current ELC Level 4 and 5 Reading objectives as well as the LATs need to be re-evaluated and improved to better fit the construct of academic reading comprehension. This will allow the ELC to better assess the students academic reading comprehension. This will also provide the ELC with feedback that has a great potential to improve ELC's curriculum and assessment. Most importantly, this type of feedback will assist ELC staff in better preparing students for academic studies in the English speaking environment.

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APPENDIX A

ELC Level 4 Reading Objectives

Text: ACTIVE Skills for Reading: Book 3 (A) Author: Neil J. Anderson

There is a class set of *More Reading Power* (MRP) 2nd edition by Beatrice Mikulecky and Linda Jeffries available in Room 103 that can be used to supplement in-class reading instruction. Please sign up for the books before your class. By the end of the semester students will be able to achieve all of the level three objectives, plus:

Intensive reading (50% of class time):

- Review the following:
 - Preview Predict (A Unit 1; MRP Part 2 Unit 2),
 - Scan (A Unit 2, 14; MRP Part 2, Unit 1),
 - Skim (A Units 3, 7, 13; MRP Part 2, Unit 8),
- Main ideas (A Units 3, 5, 7, 8, 10, 13; MRP Part 2, Unit 6);
- Vocabulary from context (A Units 4, 9; MRP Unit 4). Students will learn to understand more words by improving their knowledge of stems and affixes (A Units 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14 and/or Level 4 Roots and Prefixes);
- Identify discourse markers (A Unit 6, 15; MRP, Part 2, Unit 8);
- Restatement (MRP Part 2, Unit 10);
- Inference (A Unit 16; MRP Part 2, Unit 9);
- Read level appropriate passages at the rate of 225 to 250 words per minute with 80% comprehension of main ideas and supporting details and with 90% word recognition;
- Read newspaper articles at least twice a week. Read the following genres: expository, including comparison and contrast, cause and effect, persuasion, and process (MRP Part 2 Unit 7) For additional examples refer to *Read to Write* by Gillie, Ingle, and Mumford or *Writing Academic English* by Oshima and Hogue. They can also be exposed to other types of reading such as newspaper articles, poetry, folk/fairy tales, etc.

Extensive reading (50% of class time):

- Read 1500 pages of text: at least 200 pages of expository and 1300 pages of narrative text with at least 90% word recognition (between 25-30 pages per day); identify and discuss the basic elements of literature including plot, setting, character development, etc.
- Accumulate selectively the evidence of extensive reading and compile them in a portfolio (refer to Reading Portfolio Assessment Guidelines).
- Increase reading recognition vocabulary by a minimum of 10 words per day.

Extensive reading materials:

Narrative:

Amos Fortune: Free Man

Harriet Tubman: Freedom's Trailblazer

Gifted Hands (contains characteristics of both narration & exposition)

Out of the Dust Children of the Dustbowl

The Giver

The Greatest Salesman in the World

Harry Potter and the Sorcerer's Stone

Narrative:

Hatchet (~ 12 SASC copies)

Holes

Island of the Blue Dolphins

The Lion, the Witch and the Wardrobe

My Left Foot (out of print, ~ 16 copies in SASC)

Paul Revere: In His Own Words (not ordered for W2006)

Seven Daughters and Seven Sons

Song of the Buffalo Boy

Souder (not ordered for W2006, but ~20 in SASC)

Tuck Everlasting

Expository counterparts:

Kids Discover (KD): Colonial America

Journeys of Courage on the Underground Railroad

KD: Underground Railroad

KD: Civil War

KD: Brain

ELC Level 5 Reading Objectives

Text: *Active Skills for Reading: Book 4 (A4)* Author: Neil Anderson
Putting It Together (PIT) by Robert DiYanni can be used to supplement in-class reading instruction. By the end of the semester students will be able to achieve all of the level four objectives, plus:

Intensive reading (50% of class time):

- Review the following:
 - Preview and Predict,
 - Scan,
 - Skim,
- Main ideas (A4 Unit 6, Unit 7, Unit 13, Unit 16; PIT Unit 4 and Unit 6);
- Organization of ideas (A4 Unit 3, Unit 10, Unit 14, PIT Unit 6 and Unit 7);
- Comprehension questions that include stated and unstated details (A4 Unit 2, Unit 8, Unit 11, Unit 15, PIT Unit 5),
- Pronoun referents (*More Reading Power* by Miculecky and Jefferson, p. 62-69),
- Transition questions (A4 Unit 3, Unit 10, Unit 14, PIT Unit 7 and Unit 8);
- Vocabulary questions (Unit 7, Unit 13, Unit 16, PIT Unit 2 and Unit 3);
- Tone, purpose or course (A4 Unit 12, PIT Unit 10).
- Learn word parts and word endings (Units 1-16, PIT Unit 3).
- Study patterns of organization (A4 Unit 3, Unit 10, Unit 14, PIT Unit 7),
- Take notes
- Summarize
- Outline
- Distinguish between fact and opinion (A4 Unit 12, PIT Unit 10),
- Make inferences (A4 Unit 2, Unit 8, Unit 11, Unit 15, PIT Unit 9)
- Understand argument.
- Read level appropriate passages and stories at the rate of 250 to 270 words per minute with 80% comprehension of main ideas and supporting details and with 90% word recognition.
- Read newspaper articles at least twice a week.

Extensive reading (50% of class time):

- Read 1700 pages of text: at least 250 pages of expository and 1450 pages of narrative text with at least 90% word recognition (between 25-30 pages per day); identify and discuss the basic elements of literature including plot, setting, character development, etc
- Accumulate selectively the evidence of extensive reading and compile them in a portfolio (refer to Reading Portfolio Assessment Guidelines).
- Increase reading recognition vocabulary by a minimum of 10 words per day.

Extensive reading materials:

Narrative:

The Chosen

The Good Earth (not ordered for W06,
 ~ 12 copies in SASC)

The Hiding Place

I Heard the Owl Call My Name

The Incredible Journey
Jonathan Livingston Seagull
The Joy Luck Club
Man's Search for Meaning (not ordered for W06)
Murder on the Orient Express
October Sky
They All Laughed
Good Night Mr. Tom
Where the Red Fern Grows
To Kill a Mockingbird
The Little Prince
Where the Broken Heart Still Beats (not ordered for W06, only 17 SASC copies)
The Outsiders

Expository:

How to Win Friends and Influence People
The Millionaire Next Door
The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change
Iacocca: An Autobiography
Be One Minute Manager
One for the Money (in Teacher Resources file in Joyce's office)

APPENDIX B

Level 4 Sample Reading LAT

Level 4**The photograph of Abraham Lincoln**

TOEFL Practice, 1995

1 It was the first photograph that I had ever seen, and it fascinated me. I can remember
2 holding it at every angle in order to catch the flickering light from the oil lamp on the
3 dresser. The man on the photograph was unsmiling, but his eyes were kind. I had never
4 met him, but I felt that I knew him. On evening when I was looking at the photograph, as I
5 always did before I went to sleep, I noticed a shadow across the man's thin face. I moved
6 the photograph so that the shadow lay perfectly around his hollow cheeks. How different
7 he looked!

8 That night I could not sleep, thinking about the letter that I would write. First, I would
9 tell him that I was eleven years old, and that if he had a little girl my age, she could write
10 to me instead of him. I know that he was a very busy man. Then I would explain to him
11 the real purpose of my letter. I would tell him how wonderful he looked with the shadow
12 that I had seen across his photograph, and I would most carefully suggest that he grow
13 whiskers.

14 Four months later when I met him at the train station near my home in Westfield,
15 New York, he was wearing a full beard. He was so much taller that I had imagined from
16 my tiny photograph.

17 "Ladies and gentleman," he said, "I have no speech to make and no time to make it
18 in. I appear before you that I may see you and that you may see me." Then he picked me
19 right up and kissed me on both cheeks. The whiskers scratched. "Do you think I look
20 better, my little friend?" he asked me.

21 My name is Grace Bedell, and the man in the photograph was Abraham Lincoln.

Sample questions.

There are more types of questions that are asked on the test:

1. What is the author's main purpose in the passage?
 - a) To explain how Grace Bedell took a photograph of Abraham Lincoln
 - b) To explain why Abraham Lincoln wore a beard
 - c) To explain why the first photographs were significant in American life
 - d) To explain why Westfield is an important city

2. The word "photograph" in line one contains the root "graph" which means ...
 - a) write
 - b) one
 - c) under
 - d) light

3. The word “fascinated” in line 1 could be best replaced by ...
 - a) frightened
 - b) interested
 - c) confused
 - d) disgusted

4. The man in the photograph was
 - a) smiling
 - b) had a beard
 - c) had a round, fat face
 - d) looked kind

5. The little girl could not sleep because she was ...
 - a) sick
 - b) excited
 - c) lonely
 - d) sad

6. The word “it ” in line 17 refers to...
 - a) time
 - b) speech
 - c) photograph
 - d) station

7. From the passage it may be inferred that ...
 - a) Grace Bedell was the only one at the train station when Lincoln stopped at Westfield
 - b) There were many people waiting for Lincoln waiting to arrive on the train
 - c) Lincoln made a long speech at the station in Westfield
 - d) Lincoln was offended by the letter

Level 5 Sample Reading LAT

Level 5**The Atom** in *Introduction to Chemical Principles*

Stoker

1 If one takes a sample element gold and starts breaking it into smaller and smaller
2 pieces, it seems reasonable that one will eventually reach a “smallest possible piece” of
3 gold that could not be divided further and still be called gold. This smallest particle of
4 an element that can exist and still have the properties of the element. Thus, the atom is
5 the limit of chemical subdivision for an element.

6 The concept of an atom is an old one, dating back to ancient Greece. Records indicate
7 that around 460 B.C., Democritus, a Greek philosopher, suggested that continued
8 subdivision of matter ultimately would yield small indivisible particles which he
9 called atoms (from the Greek word atoms meaning “uncut or indivisible”).
10 Democritus’s ideas about matter were, however, lost (forgotten) during Middle Ages,
11 as were the ideas of many people.

12 It was not until the beginning of the nineteenth-century that the concept of the atom was
13 “rediscovered.” John Dalton (1776-1844), an English schoolteacher, proposed in a
14 series of papers published in the periods 1803-1807 that the fundamental building
15 block for all kinds of matter was an atom. Dalton’s proposal had its basis
16 experimentation that he and other scientists had constructed. This is in marked
17 contrast to the early Greek concept of atoms, which was based solely on philosophical
18 speculation. Because of its experimental basis, Dalton’s idea got wide attention and
19 stimulated new work and thought concerning the ultimate building blocks of matter.

20 Additional research, carried out by many scientists, has now validated Dalton’s basic
21 conclusion that the building blocks of all types of matter are atomic in nature. Some
22 of the details of Dalton’s original proposals have had to be modified in the light of
23 recent more sophisticated experiments, but the basic concept of atoms remains.

24 Today, among scientists, the concept that atoms are building blocks for matter is a
25 foregone conclusion. The large accumulated amount of supporting evidence for atoms
26 is most impressive. The following five statements, collectively referred to as the
27 atomic theory of matter, summarizes modern-day scientific thought about atoms.

28 1. All matter is made up of small particles called atoms, of which 106 different
29 “types” are known, with each “type” corresponding to atoms of different element.

30 2. All atoms of a given type are similar to one another and significantly different
31 from all other types.

32 3. The relative number and arrangement of different types of atoms contained in a
33 pure substance (its composition and structure) determine its identity.

34 4. Chemical change is a union, separation, or rearrangement of atoms to give new
35 substances.

36 5. Only whole atoms can participate in or result from any chemical change, since
37 atoms are considered indestructible during such changes.

38 Atoms are incredibly small particles. No one has seen or even will see an atom with
39 the naked eye. The question may thus be asked: “How can you be absolutely sure that
40 something as minute as an atom really exists?” The achievements of twentieth
41 century scientific instrumentation have gone a long way toward removing any doubt

42 about existence of atoms. Electron microscopes, capable of producing magnification
43 factors in the millions, have made it possible to photograph “images ” of individual
44 atoms. In 1976 physicists at the University of Chicago were successful in obtaining
45 motion pictures of the movement of single atoms.

46 Just how small is an atom? Atomic dimension and masses, although not directly
47 measurable, are known quantities obtained by calculation. The data used for the
48 calculations come from measurements made on macroscopic amounts of pure
49 substances.

50 The diameter of an atom is on the order of 10^{-8} centimeter. If one were to arrange
51 atoms of diameter 1×10^{-8} centimeter in a straight line, it would take 10 million of
52 them to extend a length of 1 millimeter and 254 million of them to reach 1 inch.

53 Indeed, atoms are very small.

54 The mass of an atom is also a very small quantity. For example, the mass of a
55 uranium atom, one of the heaviest of known kinds of atoms, is 4×10^{-22} gram or $9 \times$
56 10^{-25} pound. It would require 1×10^{24} atoms of uranium to give a mass of one pound.
57 This number, 1×10^{24} , is also large that is difficult to visualize fully. The following
58 comparison perhaps gives some idea of its magnitude. Assume that each of the $1 \times$
59 10^{24} atoms was represented by a dollar. Also assume that the 1×10^{24} dollars were
60 divided equally among the world’s inhabitants (4 billion people). Each person would
61 receive 3×10^{14} dollars and become a multitrillionaire. Recall that 10^9 is a trillion and
62 each person would have over 10^{14} dollars.

Sample questions.

There are more types of questions that are asked on the test:

1. The most important difference between Dalton’s ideas about the atom and those of Democritus was that
 - a) Dalton believed that the atom was the fundamental unit of matter
 - b) Democritus did not base his ideas on experimentation
 - c) Democritus did not know of the 106 different types of atoms which are known today
 - d) Democritus did not have the evidence of electron microscopes to support his theory

2. ‘Today, among scientists, the concept that atoms are building blocks for matter is a foregone conclusion. This means that ...
 - a) the idea is based on solid evidence
 - b) it is still very important idea
 - c) it still needs to be proven
 - d) no one doubts it

3. Which of the following is NOT part of the “atomic theory of matter”?
 - a) Atoms make up all mater
 - b) All atoms are similar to one another
 - c) Chemical change results when atoms are united, separated, or rearranged to give new substances
 - d) Since atoms cannot be destroyed during chemical change, only whole atoms can result from such a change

4. The size of atoms can be determined by
- a) direct measurement
 - b) calculation
 - c) electron microscope
 - d) guessing
5. 10^{14} equals
- a) 1,000,000,000
 - b) the mass of a uranium atom in grams
 - c) the number of atoms in a straight line a millimeter in length
 - d) more than a trillion
6. The root meaning “one thousand” is located in
- a) microscopes *line 42*
 - b) millions *line 43*
 - c) masses *line 46*
 - d) measurable *line 47*
7. The word “its” on *line 58* refers to ...
- a) atom
 - b) idea
 - c) number
 - d) comparison