Developing Reading Comprehension Skills in EFL University Level Students

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Abstract: This paper explores the development of reading comprehension in university level EFL students. Many of these students appear to be able to read with relative fluency, but a closer examination shows that they do not understand the text. Comprehension skills are essential if learners are to assimilate the meaning of the text and understand the content. Reading comprehension is essential to learning in the modern academic situation. Students can be assisted in the development of comprehension skills in various ways, including the development of background knowledge, helping them to ask pertinent questions of the text, making predictions, interpreting charts and other illustrations contained in the text, as well as the way language is used in the text. In this research, students are tested on reading material as a pre-test and then after a treatment period of three months, in which the development of their comprehension skills is emphasised, they are retested. A control group is taught the same material using routine methods and without any emphasis on comprehension, is given the same test at the same time as the experimental group. The test results are analysed using the Standard Deviation and the Z value and represented graphically before interpretation.

Introduction

Reading comprehension skills are important for students to become effective readers (Grabe & Stoller, 2002). Reading begins with the decoding letters, letter groups and the sounding out of words. Later, learners begin to read words, sentences, picture books, short stories and other texts. Reading aloud helps learners to develop their decoding skills which can be a valuable diagnostic aid. This process concentrates on the development of fluency. The movement from passive to active reading involves the development of reading comprehension skills (Machado, 2010).

Reading comprehension is the ability to understand what we read where words have context and texts have meaning. Reading comprehension skills allow us to read proficiently, learn effectively and to conceptualize. These skills are, basically, based on earlier stages of reading development, including oral reading and reading fluency. Without developing these earlier reading skills, students must continually focus on decoding letters and words, rather than progressing to meaning and understanding (Grabe & Stoller, 2002). The key to developing proficient reading skills in the early years of education is an even earlier foundation in underlying language learning skills (Brewster & Ellis, 2002). Therefore, strong reading comprehension skills are viewed as being
dependent on the strength of the cognitive strategies established in the early years.

**Literature Review**

Concepts of reading comprehension have changed dramatically over the decades. Theories of language learning have again shifted dramatically during the latter part of the 20th century (Crain, 2011). We have moved from a behavioural perspective, which dominated the field from the turn of the century to the seventies and eighties to a holistic or interactive approach, which began in the late eighties, and continues to shape our thinking about reading comprehension today. Some researchers view reading as a cognitive, developmental, and socially constructed task that goes beyond understanding the words on a page (Hedgcock and Ferris, 2009). In the past, reading was considered a relatively static activity. General meaning was imbedded in the text, and the reader’s job was to understand what was being transmitted via the words on the page. Current research views reading as a more dynamic process in which the reader “constructs” meaning based on information s/he gathers from the text. Katherine Maria (1990) defines reading comprehension as: …holistic process of constructing meaning from written text through the interaction of (1) the knowledge the reader brings to the text, i.e. word recognition ability, word knowledge, and knowledge of linguistic conventions; (2) the reader’s interpretation of the language that the writer used in constructing the text; and (3) the situation in which the text is read. (p. 14-15) University-level reading is much more sophisticated than at high school, and in a special course load, students may encounter and face many more literary genres than ever before. They may be asked to read, comprehend, and apply them in a meaningful way. Understanding these texts are essential for academic success, yet in an average class, attention will not be given to reading strategy training which may be important for the language learning tasks.

Metacognition involves several elements in the reading tasks. They are: (1) the ability to recognize errors or contradiction in text, (2) the understanding of different strategies to use with different kinds of text, and (3) the ability to distinguish important ideas from unimportant ones (Nist and Mealey, 1991). While research suggests that many university level students lack metacognitive skills (Baker, 1985), intervention studies also show that university students can try to learn and understand their level of text comprehension by using different strategies. Studies also reveal that university-age students are highly motivated to use different strategies than younger, less experienced students. “Older students seem better able to regulate and control their understanding than do younger children … as children become older, their capacity to use metacognitive skills increases, and their reasons for not using these skills change” (Nist and Mealey, 1991). There are a number of reading strategies, which can help university students to improve both comprehension and metacognition.
According to reading specialist John McNeil (1992), schemata are the reader’s “concepts, beliefs, expectations, processes – virtually everything from their past experiences are used in making sense of reading. In reading, schemata are used to make sense of text; the printed word evokes the reader’s experiences, as well as past and potential relationships” (p.20).

Effective teaching of reading comprehension necessitates an understanding and analysis of its nature and components, including both text and reader variables. Grabe (1977) put it in this way: “The central components of reading processing include: orthographic processing, phonological coding, word recognition (lexical access), working memory activation, sentence parsing, propositional integration, propositional text-model formation, text-model development, and the development of an appropriate situation model (mental model). (p.9). We need to understand when and why some readers fail to generate appropriate situation models of the text they read in spite of adaptation applied to the linguistic features (Grabe, 1997).

Reading comprehension skills are essential for meaningful and effective reading. Early reading is grounded in strong cognitive skills, i.e. learning styles such as auditory analysis, sound blending and segmenting, memory and visualization. Therefore, the key to improving reading comprehension skills is to attack weak language learning skills at the foundational level.

Effective reading comprehension requires not only accurate reading skills but also automatic and fluent reading ability. Many struggling university level students have difficulty moving to a level of automaticity and fluency that allows them to comprehend what they are reading. Automaticity is the ability to identify, at the single word level quickly, accurately and effortlessly. The speed and accuracy with which single words are identified is taken as a predictor of text comprehension (Wallace, 2010), however, reading fluency involves not only automatic word identification, but also the application of prosodic features such as rhythm, intonation and phrasing. Wood, Flowers, and Grigorenko (2001) suggest that fluency involves the prediction of what comes next in the text. They also say that reading speed and practice are not enough to promote fluency and comprehension. The ability to predict what comes next improves reading speed and is important for text comprehension.

TESOL research was influenced by Krashen’s hypotheses on language acquisition, and the “The Schema Theory” on reading comprehension. Increasingly, empirical research attests to the importance of schemata in reading comprehension. Most of the research involved reading comprehension in the first language, although the insights were adapted to the needs of second language reading comprehension studies. Attention is given to interactive approaches to reading, which suggest that reading comprehension is a combination of word identification and interpretation. Grabe (1991) lists the
five most important areas of current research: “Schema theory, language skills and automaticity, vocabulary development, comprehension strategy training, and reading – writing relations” (p.375).

The principle of reading comprehension is the cognitive tasks involved in reading as well as the various activities teachers use in teaching reading comprehension. Current research suggests that lack of automaticity in “lower-level processing” (i.e. automatic lexical access through bottom-up process) leads to poor reading skills. Consequently, most current versions of interactive approaches to reading have taken a strong bottom-up orientation to the processing of lower-level linguistic structure through extensive research of eye movement. Research suggests that “most words are recognized before higher-level (non-automatic context information can be used to influence lexical access.” (ibid: 385)

**Methodology**

In this study, data collected from two sets of tests were used. The first tests were carried out during the period from September 2011 to December 2011, and the second series of tests were carried out from February 2012 to May 2012. Although the work taught progressed, the same test was used to evaluate the students. The students were evaluated on four occasions, twice for each period. In this study, the first and last test is used to establish whether the students progressed over the study period of eight months.

As this experiment uses two different groups of students (the experimental group and a control group), it is necessary to use a calculation that enables a comparison of the two groups to be made. The standard deviation and Z-Values provide such a means where the scores of the four tests taken by the two groups can be compared. The Z-Values and the Standard Deviation calculations enable the researcher to take factors such as the distribution of the scores obtained by the groups into consideration. This enables a more meaningful comparison to be made than by simply looking at raw percentages. The higher the Z-Value obtained, the better the individual student’s performance (Agresti & Finlay, 2009).

Below, a discussion of the two calculations and their meaning is given.

**The Standard Deviation and the Z value**

The analysis here uses the Standard Deviation which is the distribution round the mean. It is a widely used statistical measurement in educational research. The standard deviation is defined as the square root of the variance, which is the average of the squares minus the square of the mean (Agresti & Finlay, 2009).
The greater the standard deviation, the more widely the scores are scattered; the smaller the standard deviation, the smaller the deviation of the scores from the average.

The Z value is used to compare students’ performance. The Z value is the distance from the mean in terms of standard deviation units. The higher the Z value the better a student's performance (Agresti & Finlay, 2009).

**Participants**

The research participants are members of two classes of first year students at a general university located in the northern part of Taiwan. Class A is the experimental group and Class B is the control group. Both classes are at the same university and both classes consist of 61 students.

**The Experimental Group**

The raw scores of the experimental group indicate improvement over the period of the study as indicated in graph form in Figure 1.

![Reading Comprehension Skills Experimental Group](image)

**Figure 1. Experimental Group. Series1 (First test) Series 2 (Final test)**

According to the raw score data, there was some improvement, as the difference between the highest score and the lowest score, narrowed from 60 to 38. These scores also show that the lowest score in the first test was 20% and the highest was 80%; the mean was 61.73%. The lowest in the second test was 59% while the highest was 97% and the mean was 81.36%. The difference between the highest and lowest scores diminished, as did the distribution around the mean. The difference in the first test is 16 and in the last test 38. This indicates a significant drop in the difference between the highest and lowest scores, suggesting an improvement in the weaker scoring students. It is apparent, then that, according to the raw scores, the experimental group improved and benefited by the work done during the experimental period.
The Control Group
The control group is a similar group of students in terms of size and composition to the experimental group.

Figure 2. Control Group. Series1 (First test) Series 2 (Final test)

The raw scores indicate a lower set of scores in the first test. The first test indicated a low of 26% and a high of 72% with a difference of 46 and a mean of 56.206%. In the final test, the lowest score 45%, with a highest of 84%. The difference is 39, with the mean 66.81% as shown in Figure 2. As with the experimental group, the raw scores indicate an apparent improvement.

Data Analysis

After collection, the data was analysed using the standard deviation and Z-value, as mentioned above. The table below shows the mean Z-Values arranged in descending order.

Table 1. Z-Value means arranged according to descending order

<table>
<thead>
<tr>
<th>Test</th>
<th>Z-Value</th>
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<tbody>
<tr>
<td>Experiment test four</td>
<td>61.8</td>
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<tr>
<td>Control test one</td>
<td>61.50</td>
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<td>Experimental test one</td>
<td>61.27</td>
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<td>Control test four</td>
<td>61.005</td>
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</table>

These values indicate that the experimental group actually improved. The fourth test gained a mean Z-value of 61.8, while the first test gained a mean Z-value of 61.27. There is a positive difference of 0.53, indicating an improvement.

The control group, declined on their Z-values. The fourth test indicates a mean Z-value of 61.005, while the first test indicates a mean Z-value of 61.50. There
is a negative difference on the Z-value of -0.495, indicating an overall decline in their average performance, though individual students may have improved. The Z-value, therefore gives a somewhat different picture regarding the student’s actual performance, from test-to-test, to the raw scores.

**Findings**

The results, using the Z-Value, indicate that the experimental group performed better than the control group. It is apparent that the control group declined in their over-all performance, an indication that is cause for concern, especially as it appears that the students actually lost ground, given that the same test was used in the pre-test and the post-test.

These findings indicate that the methods used by the researchers in the experimental group actually benefited the class.

**Recommendations**

The control group, as shown by the Z-Value, declined in their performance over the term, while the result for the experimental group indicates an improvement. This suggests that there is value to be accrued in reading-comprehension type teaching.

Further research is necessary to show why the control group declined and to understand the gains made by the experimental group.

**Conclusion**

As shown in the findings, the Z-Value calculations show that the experimental group improved over the period of the experiment. The use of reading and reading comprehension can, therefore, be a valuable aid to language teaching. Such methods appear to help students gain understanding, as they are able to see the language in context. This is in keeping with the theoretical review and recent research, as shown in the literature review.

It is apparent that being able to understand the text (Maria, 1990), as tested in the two tests, comprises a number of reading skills, including prediction and schema (McNeil, 1992), as discussed in the literature review, above. During the tests, the students were given a time limit, which means that they had to work quickly and as efficiently as possible. Those who had been taught using reading comprehension methods, were clearly, more able to read and work efficiently than the control group who were not taught using these methods. Being able to make inferences and predictions is clearly important in
enabling learners to develop their understanding of the target language. This is shown in the better scores obtained by the experimental group.

University level students often perceive the great importance of reading as well as the “escape” provided by reading. Therefore they develop personal approaches to reading development, combining useful instruction, individual and personal persistence for learning and extended practice. In other words, they develop their own content-based language instruction.

We are encouraged by the fact that many students learn to read well and many develop a reading habit and read for pleasure. In spite of the fact of the dilemmas that teachers encounter, the difficulties that learners face and the many unanswered problems that emerge from research findings, many students become proficient readers. Thus, it is essential to explore how learning and teaching can be carried out more effectively and to find ways to make instruction work better in future.

References


## Appendix

### Results of the Four Tests

<table>
<thead>
<tr>
<th></th>
<th>Test 1</th>
<th>Z-Value</th>
<th>Test 2</th>
<th>Z-Value</th>
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<th>Z-Value</th>
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<tr>
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<td>61.0018</td>
<td>73</td>
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</table>

**Difference:** 61.73%