Another Look at Extensive Reading:
A Study of Japanese University EFL Students
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A Study of Japanese University EFL Students

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by
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Abstract

Internet access has brought us closer to foreign cultures and makes English reading skills crucial for people who want immediate access to worldwide information.

From my teaching experience in various Japanese high schools, however, English lessons seem to mainly focus on intensive reading skills with an emphasis on learning new grammar and vocabulary, and students are trained to consult a dictionary when they meet unknown words, which results in their having a negative attitude toward reading in English. They seem to think reading in English is very difficult and time-consuming.

Many researchers report that successful readers are able to utilise top-down processing more often than bottom-up processing because their bottom-up processing occurs automatically. Exposure to a large amount of written text is essential for acquisition of automatic bottom-up processing. This is why I believe the introduction of extensive reading, where a reader reads a large number of texts rapidly, concentrating on the content of the text rather than the language, would help improve students' language skills and overcome their negative attitude toward reading in English.

Common complaints about previous extensive reading research include the difficulties of controlling outside interference and maintaining equal learning conditions between the experimental group and the control group. In this study, I attempted to verify the effects of extensive reading on students' language skills and attitudes toward reading, by intentionally avoiding using a control group in order to diminish the effects of the different
learning conditions caused by using two groups of students. By using statistical analyses, I attempted to cast light on the relationship between the amount of reading done and the improvement of students' English skills, and to investigate the positive effects of extensive reading.

The first chapter describes theoretical aspects of reading in an EFL/ESL environment and the meaning of extensive reading. The following chapters describe my actual research, starting with the method and procedure, and then the results are discussed. The first part of my study focuses on the amount of reading students completed and discusses the relationship between the amount of reading done and the progress of their English skills. The second part focuses on the characteristics of students' progress and discusses differences between students by using cluster analysis. The last chapter summarises the findings and pedagogical implications.

In conclusion, three findings can be summed up from this study. First, a commonly held belief that extensive reading helps students to improve their English skills and alter their negative attitudes toward reading was confirmed. Secondly, students' learning styles and strategies used while doing the reading may have an effect on their progress, judging from the result that even though students read similar amounts, their progress was very different. Lastly, different English skills may require varying periods of time to improve through extensive reading, considering the result that the progress of some skills was significant and other skills showed a tendency to progress.
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Introduction

In the present day when the internet has resulted in much closer contact between people of different nationalities, English reading skills are essential for people wanting immediate access to worldwide information. Due to internet access, we have more opportunities than ever before to read in English and to gain understanding of other cultures.

Nevertheless, from my own teaching experience in various Japanese high schools, many students seem to have a rather negative attitude toward reading in English, and they also appear to be poor readers. I have observed that they read English very slowly and when they proceed to the next paragraph, they seem to forget what was written in the previous one.

There are several possible reasons for their negative attitude. First, students practice intensive reading in most English reading classes in order to learn new grammar and vocabulary. They study textbooks which contain many unknown sentence structures and words, and are trained to consult a dictionary when they meet unknown words. Therefore, reading the textbook seems to require considerable time and to be very hard work for the students. They do not seem to appreciate the stories in the textbook because their concentration is focused on decoding sentences. Secondly, every student in the class has to study the same textbook, so it is impossible to adequately cover each student's interests and reading level.

On the basis of my teaching experience then, my claim is that a pleasant experience of English reading is essential if we are going to alter students' attitudes. I believe that extensive reading would be a great help
for them. Nation (1997) stated three benefits of extensive reading:

First, reading is essentially an individual activity and therefore learners of different proficiency levels could be learning at their own level without being locked into an inflexible class program. Second, it allows learners to follow their interests in choosing what to read and thus increase their motivation for learning. Third, it provides the opportunity for learning to occur outside the classroom. (p. 13)

Moreover, to successfully acquire a foreign language in an environment where we do not have many opportunities to be exposed to English, it is essential to make time to study outside the classroom and to continue this study after graduating from school. An interesting and easy way to learn English outside the classroom is crucial if learners are going to fit study into their busy daily schedule. In this respect, reading can be done at any time and any place, making it an ideal language learning activity. Reading can be fun when learners choose a book which fits their interests and reading level, and especially, when it is interesting, they are willing to devote some time to reading. Reading expands our knowledge of the world, which also helps language acquisition. For these reasons, my assertion is that extensive reading is a fruitful way to learn a language outside the classroom.

The purpose of this paper is to verify the effects of extensive reading. In chapter 1, I discuss the theoretical and conceptual perspective of extensive reading. Chapter 2 provides an overview of extensive reading research studied from two different perspectives. Chapter 3 describes Study I, in
which I attempt to verify three hypotheses in terms of students' progress in English proficiency. Chapter 4 describes Study II, which identifies the characteristics of students' progress. Chapter 5 summarises the conclusions, and adds some pedagogical implications.
Chapter 1
RESEARCH BACKGROUND

This chapter will discuss theoretical aspects of reading in order to better understand the EFL reading process and then explain how extensive reading relates to this process.

1.1 A Theoretical Description of the Reading Process in an EFL/ESL Environment

During the past decade, EFL/ESL reading theory has been influenced by the theories of psycholinguistics. In a psycholinguistic model of reading, Goodman (1967) described reading as a "psycholinguistic guessing game", and noted that "skill in reading involves not greater precision, but more accurate first guesses based on better sampling techniques, greater control over language structure, broadened experiences and increased conceptual development" (p. 266). He regards reading as a process of construction of meaning, and this construction as continuous sampling from the text, predicting, testing and modifying those predictions. This view has been widely accepted as a description of the EFL reading process.

Schema theory (Rumelhart & Ortony, 1977; Rumelhart, 1980) was also introduced to EFL/ESL reading theory. Rumelhart and Ortony (1977) stated, "schemata are data structures for representing the generic concepts stored in memory. They exist for generalized concepts underlying objects, situations, events, sequences of events, actions, and sequences of actions" (p. 101). According to schema theory, reading comprehension is an
interactive process between the input information and the reader's background knowledge. This leads to two basic modes of processing information: bottom-up (data-driven) processing, and top-down (conceptually-driven) processing. In bottom-up processing which is the lower level of processing, the reader processes the input information, beginning with the smallest chunk, and ending with larger chunks of meaning. The reader recognizes every letter, organizes the letters into words, and organizes the words into phrases, clauses, sentences, paragraphs and finally, the whole text. In top-down processing, the reader samples the text, predicts what will come next on the basis of his or her background knowledge and then searches the text for information to fit into the predictions and repeats this procedure in each section of the text. While we are reading, these two modes of processing information work interactively.

In his interactive-compensatory model, Stanovich (1980) cast new light on the reading process: when readers have deficiencies in either contextual knowledge (top-down processing) or word analysis skills (bottom-up processing), they compensate for the deficiencies by relying on their other more proficient mode of processing. For example, a poor reader who has deficient word analysis skills (bottom-up processing) will heavily rely on contextual factors (top-down processing). This theory is widely accepted in L2 reading theory and clearly explains a L2 reader's situation. Needless to say, L2 readers' language ability is inferior to L1's ability, and it is often the case that L2 readers try to compensate for language skill deficiencies by relying on their background knowledge when they have troubles in their reading. Due to the lack of sufficient information about the sentences, they
often misread the text because they apply the wrong background knowledge. Carrell and Eisterhold (1983) remark that:

Most commonly, accessing appropriate content schemata depends initially on textual cues; graphic display [letters on the text] must be somehow reconstructed by the reader as meaningful language... and it is not surprising that failures to access appropriate schemata are often interpreted solely as deficiencies in language processing skills. (p. 562)

1.2 Successful Readers in an EFL/ESL Environment
1.2.1 Successful readers' strategy use

Most research on successful readers suggests that they utilise top-down processing more often than bottom-up processing (Hosenfeld, 1977; Tsudajuku University Language Institute reading research group, 1992). Carrell (1989) notes that “... those who perceive the global reading strategies as posing less difficulty for them read better in English as their second language than those who perceive the local reading strategies as posing less difficulty” (p. 127). LeBerge and Samuels (1974) focused on automaticity and explained that successful readers are able to decode the written words automatically, allowing them to concentrate on comprehension of the text. Stanovich (1980) also points out, “... the word recognition of good readers is less reliant on conscious expectancies generated from the prior sentence context. The result is that more attentional capacity is left over for integrative comprehension process” (p. 64). This “attentional capacity” is
explained by the concept of *working memory*. Baddeley (1986) explains:

The term working memory implies a system for the temporary holding and manipulation of information during the performance of a range of cognitive tasks such as comprehension, learning, and reasoning. (pp. 33–34)

[The] system should be limited in capacity, and should operate across a range of tasks involving different processing codes and different input modalities. (p. 35)

[An] important function of WM [working memory] is to maintain earlier information and to integrate it with the new information that is fed into WM as reading proceeds. (p. 192)

In *Process and instruction of English reading* (2002), Horiba likens working memory to a work bench being used to assemble various components. Suppose we want to build a large machine (comprehension), assembling its various components (information) on a bench of limited size or capacity (working memory). If we spread many components on the bench, we do not have much space left for work, or if we use too large a space for our work itself, there is little space left for putting the essential components on the bench. Assembling two particular components also means that we have to manipulate those two components at the same time. If we are unaccustomed to both the components and the assembling process, we need a larger work space. On the contrary, we do not need as much space if the procedure is well known. This work bench description is a good analogy of
working memory. Working memory can also be likened to Random Access Memory built into computers.

Returning to successful readers, the bottom-up processing of successful readers occurs automatically, so that ample amounts of their working memory can often be utilised for top-down processing. On the other hand, unsuccessful readers tend to fill their working memory with bottom-up processing, so that there is little capacity left in their working memory for top-down processing. Ridgway (1994) notes that the most effective reading occurs when automatic bottom-up processing is maximized since reading is regulated by a capacity which is controlled by working memory.

For bottom-up processing to become automatic, readers need to be exposed to large amount of written text. Extensive reading is an appropriate means to this end. It is my belief that extensive reading will help students to learn to utilise bottom-up processing automatically and therefore to become successful readers.

1.2.2 Attitude of successful readers

In this section, I would like to focus on the affective characteristics of successful readers. Hosenfeld (1977) sketched out four features of a successful reader: 1) keeps the meaning of the passage in mind while reading; 2) reads in "broad phrases"; 3) skips words viewed as unimportant to total phrase meaning; and 4) has a positive self-concept as a reader. She suggests that successful readers have a positive self-concept as a reader, as well as proficient reading skills.

In their extensive reading bootstrap hypothesis, Day and Bamford
(2002) claim that students' initial successful experiences in extensive reading help them to develop positive attitudes toward reading in the second language and motivate them to read more. Moreover, the positive experiences promote further extensive reading, resulting in greater progress in reading ability, more positive attitudes, and thus increases in motivation and enjoyment. They posit that successful extensive reading experiences trigger positive attitudes toward L2 reading and proficient reading skills.

According to the results of Mori's research on Japanese students' motivation to read in a foreign language (2002), their foreign language reading motivation closely resembles more general forms of motivation known as expectancy-value theory (Brophy, 1999): When learners expect success in a given task and see value in that success, they have positive motivation to the given task. That is, when Japanese students expect success in reading in English and they value this success, they are willing to read in English. In Mori's more recent research (2004), she observed, "interest and enjoyment involved with the reading task has a positive influence on how much students work with the task" (p. 75). These results support Day and Bamford's extensive reading bookstrap hypothesis.

1.3 What Is Extensive Reading

The seed of extensive reading is to be found as early as the 1920s. In his book, The Principles of language study, Palmer (1921) referred to extensive reading as reading a large number of texts rapidly, where a reader's attention is on the content of the text, not the language. This is in contrast to intensive reading, "take a text, study it line by line, referring at
every moment to our dictionary and our grammar, comparing, analysing, translating, and retaining every expression that it contains” (p. 165). Palmer stressed the importance of both styles of reading.

In this paper, the meaning of extensive reading is based on Palmer’s definition. Extensive reading is often referred to as a reading style, but in this paper, extensive reading is used as an approach rather than a style, following Day and Bamford’s description (2002): “extensive reading as an approach to second language reading instruction. . . . aims to get students reading in the second language and liking it” (p. 6).

Day and Bamford (1998) suggested 10 guidelines for extensive reading which I followed in this project:

(1) Students read as much as possible.

(2) A variety of materials on a wide range of topics is available.

(3) Students select what they want to read.

(4) The purposes of reading are usually related to pleasure, information, and general understanding.

(5) Reading is its own reward.

(6) Reading materials are well within the linguistic competence of the students in terms of vocabulary and grammar.

(7) Reading is individual and silent.

(8) Reading speed is usually faster rather than slower.

(9) Teachers orient students to the goals of the program.

(10) The teacher is a role model of a reader for students.
1.4 Previous Studies

Many studies on extensive reading have been conducted both inside and outside Japan, reporting great effects of extensive reading. Most of them compare extensive reading to other approaches (Robb & Susser, 1989; Hafiz & Tudor, 1990; Elley, 1991; Kanatani, Osada, Kimura & Minai, 1994, 1995; Tsang, 1996; Mason & Krashen, 1997; Yokomori, 2000; Bell, 2001; Ng & Sullivan, 2001). The gains in skills and the period of the research varied with each study. Some studies took over 2 years, and others, three to four weeks. Some studies found improvement in reading fluency, reading comprehension, or vocabulary. Others showed progress on writing, cloze test, or curriculum-based achievement. Researchers did not always use the same methods to measure the improvement of language skills. The only common outcome of most studies was an increase in students' positive attitudes toward reading. One possible reason for the different results in improvement of skills from each study could be the difficulty of assessing reading (language) skills, because the reading process is very complex. Moreover, extensive reading is often conducted outside the class, which makes it very difficult to control the research conditions and avoid outside interference. As well as these shortcomings, there are some other problems inherent in extensive reading research.

In order to compare the effects of extensive reading to other approaches, the researchers created experimental groups and control groups. Many control groups, however, were not given much exposure to English, unlike the experimental groups who did lots of reading. This makes it difficult to examine the effects of extensive reading itself. Moreover, it is very difficult
to make the learning conditions of both the experimental and control groups equal before the experiment and keep them equal during the research with the only difference being their extensive reading input.

The amount of reading done is very important for examining the effects of extensive reading. Some studies (Elley, 1991), however, did not mention the amount of reading the participants completed during the research, and other studies only counted the number of books read. Since the size of each book varies considerably and the number of words per page is quite different depending on the level of the book, the number of words the participants read would be a preferable measure of the amount read.

In some studies (Kanatani et al., 1994, 1995), participants in the experimental group applied to be part of the extensive reading project and their progress was compared to that of other students who only studied in regular compulsory lessons. From the beginning, the motivation and attitude toward learning English would be different between the two groups. It is likely that highly motivated students study harder and this results in greater improvement. In other studies, participants were told that they would have tests after the project, and this may have led the students to make greater efforts at studying English. This could interfere with the effects of extensive reading.

In spite of these problems, I believe that extensive reading does improve language skills. In this study, I attempted to verify the effects by doing some statistical analyses, diminishing as many problems as possible. I attempted to give equal opportunities to read outside the class to all participants. I did not enforce any rules regarding the amount of reading,
with the aim of observing a more natural outcome of extensive reading.
Chapter 2
RESEARCH

2.1 Research Design

The goal of this research is to investigate the effect of extensive reading on students' English ability. The research consists of two parts: Study I, improvements of the students' English ability, and Study II, characteristics of the students' progress.

Study I attempts to verify the students' progress under three hypotheses:

Hypothesis 1: Extensive reading will improve reading fluency and reading comprehension.

Hypothesis 2: The more students read, the more improvement there will be in their vocabulary and writing fluency.

Hypothesis 3: Extensive reading will help students gain a positive attitude toward English reading.

Study II investigates the characteristics of the students' progress through extensive reading.

2.2 Method

2.2.1 Participants

Thirty-one students, who were training to be primary school teachers, participated in this study at a public university in Hyogo prefecture. They
were all 18 or 19-year-old first year students (12 males and 19 females). A few of them had been abroad for home-stays for 1 or 2 weeks, but none had studied abroad for an extended period. As part of compulsory lessons for their degree requirement, they had two 90-minute English classes a week. Part of one of these lessons was set aside for this project.

2.2.2 Materials

Textbooks

The reading materials made available for the students consisted mainly of a variety of graded readers from major publishers such as Oxford, Longman (Penguin Readers), Cambridge, and Heinemann. The word levels were from 200 to 25,000 words. A number of children's picture books, such as the “Curious George” series, “Puffin Easy-to-Read” books, and “I Can Read” books, as well as easy reading books from several Japanese publishers were also available. All the books were kept in easy-to-carry boxes and taken to the classroom once a week for the students to borrow.

Measures

Three measures were used to examine on what aspects of English ability the students made progress: (1) the Assessment of Communicative English (ACE) test, (2) reading fluency tests, and (3) writing fluency tests. Questionnaires were used to ascertain the students’ attitudes toward reading in English as well as in Japanese.

(1) The Assessment of Communicative English (ACE) test: This test
consists of 4 sections: listening, vocabulary, grammar, and reading. Vocabulary, grammar, and reading tests were conducted twice, in the pre-test and the post-test. This test, developed by the *Association for English Language Proficiency Assessment*, is based on the same Item Response Theory used in the TOEFL and TOEIC tests.

(2) Reading fluency: This test was conducted three times, in the pre-test, mid-test, and post-test. Three articles from Jamestown Publisher's reading material, *Timed Reading* (Spargo, 1989) were used to examine how many words the students could read in a minute. Each article had 10 multiple-choice questions which were used to check the students' understanding after reading. Scores, calculated by multiplying the words per minute (WPM) by the rate of correct answers, were used as the data. The 'Timed Reading' was designed to practice fluent reading and each article was written with a similar total number of words (about 400 words). Three articles with a similar level of reading difficulty were selected. (See Appendices F, G, and H.) The articles are estimated to be equivalent to the reading difficulty of U.S. 5th graders. Analysed with Microsoft Word 2003, the readability scores of Flesch-Kincaid for each article were 5.1, 5.6, and 5.6 respectively.

(3) Writing fluency: This test was conducted three times, in the pre-test, mid-test, and post-test. The students were asked to write down as much as possible about a given topic, with a 10-minute time limit. The topics, "favourite places", "friends", and "favourite books", were chosen on my
assumption that they are familiar to the students. According to the
*Common European Framework of Reference for Language* (2002), language
activities in the personal domain are classified as easier than those in the
public domain. I attempted to evaluate the students’ writing level on the
basis of common reference levels in the Common European Framework of
References for Language (2002), and considered that their levels would be
around B2\textsuperscript{1}. In consideration of the time restriction, easier topics than their
actual level, which are familiar to the students in their personal domain,
seemed to be adequate for testing their writing fluency. After excluding
unintelligible sentences in their writing, the total number of words written
was used as the data.

2.2.3 Procedure

This research project was conducted for 12 weeks from the beginning of
October in 2004 to the beginning of January, 2005. The last ten minutes of
a regularly scheduled English class every Friday were used for students to
choose books they wanted to read. Students were asked to read as much as
possible in their own time. They were not given time to read in the lesson.
They were also asked to write a brief summary and comments about the book
(a reading report) in order to monitor their reading. The reading reports
were collected once a week and returned to each student with comments
from the researcher, encouraging their further reading, written on them.
The project schedule is shown in Table 2.1.

\footnote{1 Can write clear, detailed texts on a variety of subjects related to his/her
field of interest, synthesising and evaluating information and arguments
from a number of sources.}
Table 2.1

*Project Schedule*

<table>
<thead>
<tr>
<th>Time</th>
<th>In class</th>
<th>Outside class</th>
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<tbody>
<tr>
<td>The beginning of the project (October, 2004)</td>
<td>Pre-test</td>
<td>After the first lesson, students start extensive reading.</td>
</tr>
<tr>
<td></td>
<td>• ACE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Reading fluency test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Writing fluency test (favourite places)</td>
<td>Once a week, they choose a new book and hand in a reading report.</td>
</tr>
<tr>
<td></td>
<td>Questionnaire (attitude toward reading)</td>
<td></td>
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<tr>
<td></td>
<td>Explanation of extensive reading</td>
<td></td>
</tr>
<tr>
<td>Middle of the project (the 7th week)</td>
<td>Mid-test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Reading fluency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Writing fluency (friends)</td>
<td></td>
</tr>
<tr>
<td>The end of the project (January, 2005)</td>
<td>Post-test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ACE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Reading fluency test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Writing fluency test (favourite books)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Questionnaire</td>
<td></td>
</tr>
</tbody>
</table>

In the first lesson, the purpose of extensive reading was explained, and students were shown how to choose a book at an appropriate level for their reading ability. An appropriate level means the level at which students can read a book comfortably without using a dictionary. According to Nation
(1997), more than 95% of the text vocabulary should be already known by students so that they can guess unknown words and follow the story. From my teaching experience, most of the students are trained to consult a dictionary when they meet unknown words and some students feel very uneasy about continuing reading when encountering even a single unknown word. Therefore, to get accustomed to reading without a dictionary, I recommended them to start with a book which had less than 2 unknown words per page.
3.1 Research Hypotheses

This study investigates the progress of the students’ English ability under three hypotheses:

Hypothesis 1: Extensive reading will improve reading fluency and reading comprehension.

Hypothesis 2: The more students read, the more improvement there will be in their vocabulary and writing fluency.

Hypothesis 3: Extensive reading will help students gain a positive attitude toward English reading.

To verify these hypotheses, firstly data from the whole class was analysed, then the data was divided into two groups according to the amount of reading completed, and the differences between the two groups was examined.

3.2 Data Analysis of the Whole Class

Prior to analysing the data, I checked if there were any extreme values. I found one extreme value and excluded it because it could bias the statistics. Figure 3.1 shows the differences between the pre-tests and the post-tests on the Assessment of Communicative English (reading comprehension, vocabulary, and grammar), reading fluency, and writing fluency. Their descriptive data is shown in Table 3.1.
Table 3.1

Descriptive Data of the Whole Class

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pre</td>
<td>mid</td>
<td>post</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>30</td>
<td>26</td>
<td>80.23</td>
</tr>
<tr>
<td>Grammar</td>
<td>30</td>
<td>26</td>
<td>75.37</td>
</tr>
<tr>
<td>Reading</td>
<td>30</td>
<td>26</td>
<td>197.10</td>
</tr>
<tr>
<td>Reading fluency</td>
<td>29</td>
<td>27</td>
<td>24</td>
</tr>
<tr>
<td>Writing fluency</td>
<td>30</td>
<td>27</td>
<td>24</td>
</tr>
</tbody>
</table>

Figure 3.1. Changes in the pre- and post-tests

Except for reading comprehension, all the test scores increased in the post-test. To investigate if there are significant differences, t-tests were used on the Assessment of Communicative English, and one-way analysis of variance (hereafter called ANOVA) was used on reading fluency and writing fluency. When any progress was found, the correlation between the progress and the amount of reading completed was calculated. To measure the amount of reading completed by each student, the total number of words read was used. Since I had emphasized that students should enjoy the
reading, it was not uncommon for students to begin a new book, read a few pages, decide they didn't like it, and begin a new book. This makes it very difficult to use "number of books read" as a measure of the amount of reading completed. Moreover, the books are all different length as well. Having observed all this, I decided it would be more accurate to use the number of words read.

3.3 Results on the Whole Class Data

Table 3.2 shows the differences between the pre-test and post-test on Assessment of Communicative English. In the vocabulary test, the mean score increased by 14.00, and in the grammar test, by 13.54. To the contrary, the mean score for reading decreased by 15.88. The results of the t-tests show that there are significant differences between the pre-test and the post-test for grammar and vocabulary, but there are no significant differences between the pre-test and the post-test for reading (p > 0.1). This data suggests that students made progress in vocabulary and grammar.

<table>
<thead>
<tr>
<th>Test section</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary post - pre</td>
<td>14.00</td>
<td>12.08</td>
<td>5.91</td>
<td>25.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Grammar post - pre</td>
<td>13.54</td>
<td>13.11</td>
<td>5.27</td>
<td>25.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Reading post - pre</td>
<td>-15.88</td>
<td>51.74</td>
<td>-1.57</td>
<td>25.00</td>
<td>0.13</td>
</tr>
</tbody>
</table>

(The maximum score of the vocabulary and grammar sections is 150 for each, and the reading section is 300.)

Table 3.3 shows the differences among the three tests (pre-test, mid-test, and post-test) with regard to reading fluency, and Table 3.4 also
indicates the differences in writing fluency. The result of one-way ANOVA indicates that there are significant differences among the three tests. As a follow-up statistical procedure to investigate which test has significant differences, compared to the pre-test, Dunnett's tests were run. They show there are significant differences between the pre-test and the mid-test in reading fluency and writing fluency. However, they do not show significant differences between the pre-test and the post-test in reading fluency and writing fluency.

Table 3.3

One-way ANOVA on Reading Fluency

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>times test taken</td>
<td>6472.252</td>
<td>2</td>
<td>3236.126</td>
<td>10.586**</td>
</tr>
<tr>
<td>Subjects</td>
<td>12372.672</td>
<td>22</td>
<td>562.394</td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>13450.141</td>
<td>44</td>
<td>305.685</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>32295.065</td>
<td>68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

post hoc test (Dunnett's test)

<table>
<thead>
<tr>
<th>Test (I)</th>
<th>Test (J)</th>
<th>Difference (I-J)</th>
<th>SE</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>mid-test</td>
<td>pre-test</td>
<td>22.981</td>
<td>5.3537</td>
<td>0</td>
</tr>
<tr>
<td>post-test</td>
<td>pre-test</td>
<td>9.423</td>
<td>5.4701</td>
<td>0.162</td>
</tr>
</tbody>
</table>

Table 3.4

One-way ANOVA on Writing Fluency

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>times test taken</td>
<td>3626.464</td>
<td>2</td>
<td>1813.232</td>
<td>9.952**</td>
</tr>
<tr>
<td>Subjects</td>
<td>16536.435</td>
<td>22</td>
<td>751.656</td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>8016.87</td>
<td>44</td>
<td>182.202</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28179.769</td>
<td>68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

post hoc test (Dunnett's test)

<table>
<thead>
<tr>
<th>Test (I)</th>
<th>Test (J)</th>
<th>Difference (I-J)</th>
<th>SE</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>mid-test</td>
<td>pre-test</td>
<td>13.69</td>
<td>5.598</td>
<td>0.034</td>
</tr>
<tr>
<td>post-test</td>
<td>pre-test</td>
<td>2.06</td>
<td>5.779</td>
<td>0.867</td>
</tr>
</tbody>
</table>
While the analysis of the whole class data does not necessarily provide the evidence to prove the effect of extensive reading on the students' progress, we can not deny that other possible factors could have influenced their progress. Therefore, further analysis of the data is required in order to clearly prove the effect of extensive reading.

To investigate if students' progress has any relation to the amount of reading done, a Pearson product-moment correlation analysis was conducted. I examined the correlation between the Assessment of Communicative English test (grammar, vocabulary, and reading), reading fluency, writing fluency, attitude toward reading, and the amount of reading done. Table 3.5 shows the correlation between these variables. The results indicate that the grammar post-test, the mid- and post-tests for writing fluency, and a positive attitude toward reading expressed in the post-questionnaire, all have correlation with the amount of reading done.

Table 3.5

<table>
<thead>
<tr>
<th>Pearson Correlations Between the Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Amount of reading</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Reading fluency pre</td>
</tr>
<tr>
<td>0.188</td>
</tr>
<tr>
<td>Reading fluency mid</td>
</tr>
<tr>
<td>0.246</td>
</tr>
<tr>
<td>Reading fluency</td>
</tr>
<tr>
<td>fluency post</td>
</tr>
<tr>
<td>0.251</td>
</tr>
<tr>
<td>Writing fluency pre</td>
</tr>
<tr>
<td>0.21</td>
</tr>
<tr>
<td>Writing fluency mid</td>
</tr>
<tr>
<td>0.417*</td>
</tr>
<tr>
<td>Writing fluency post</td>
</tr>
<tr>
<td>0.427*</td>
</tr>
<tr>
<td>Vocab. Pre</td>
</tr>
<tr>
<td>0.208</td>
</tr>
<tr>
<td>Vocab. post</td>
</tr>
<tr>
<td>0.269</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Grammar pre</td>
</tr>
<tr>
<td>0.123</td>
</tr>
<tr>
<td>Grammar post</td>
</tr>
<tr>
<td>0.426*</td>
</tr>
<tr>
<td>Reading pre</td>
</tr>
<tr>
<td>0.004</td>
</tr>
<tr>
<td>Reading post</td>
</tr>
<tr>
<td>0.269</td>
</tr>
<tr>
<td>positive attitude post</td>
</tr>
<tr>
<td>0.380*</td>
</tr>
<tr>
<td>positive attitude post</td>
</tr>
<tr>
<td>0.479**</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

*p<0.05, p**<0.01
The results of the analysis suggest that the more students read, the more progress on grammar and writing fluency they made, and the more positive their attitude toward English reading became. However, the results of the correlation study do not in any way validate the causality between their progress in grammar and writing fluency, and the amount of reading done. In other words, it is not clear that students improved grammar and writing fluency because they read more, or whether those students who read more are very diligent, resulting in more progress on grammar and writing fluency. More analyses from different angles may provide us with a clearer relationship between the amount of reading and the students' progress.

3.4 Data Analysis of the Two Groups

To pave the way for the investigation of the relation between the amount of reading and the students' progress, I divided the class into two groups according to how much they read.

Examining the total number of words read, there was a clear division at the ten thousand word mark. The number of students who read more than ten thousand words was 14 (Group A), and the number who read less was 16 (Group B). The average of Group A was 15,000 words, and Group B was 5,000 words. Before any data analysis, t-tests were carried out on each test and the similarity of the data variance was checked, comparing the pre-test scores of the two groups in order to establish if the two groups were roughly equivalent on the measures of English proficiency. Table 3.6 shows the descriptive data of the two groups.
26

Table 3.6

**Descriptive Data of the Lower and Higher Reading Groups**

<table>
<thead>
<tr>
<th>Test</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading fluency pre</td>
<td>14</td>
<td>19</td>
<td>79</td>
<td>49.03</td>
<td>18.98</td>
<td>360.22</td>
<td>-0.134</td>
<td>-0.938</td>
</tr>
<tr>
<td>Vocabulary pre</td>
<td>14</td>
<td>61</td>
<td>110</td>
<td>82.93</td>
<td>14.19</td>
<td>201.46</td>
<td>0.408</td>
<td>-0.294</td>
</tr>
<tr>
<td>Grammar pre</td>
<td>14</td>
<td>63</td>
<td>94</td>
<td>76.07</td>
<td>8.91</td>
<td>79.46</td>
<td>-0.185</td>
<td>-1.512</td>
</tr>
<tr>
<td>Reading pre</td>
<td>14</td>
<td>142</td>
<td>247</td>
<td>194.36</td>
<td>31.66</td>
<td>1001.48</td>
<td>0.053</td>
<td>-1.106</td>
</tr>
<tr>
<td>Writing fluency pre</td>
<td>14</td>
<td>34</td>
<td>84</td>
<td>57.43</td>
<td>14.51</td>
<td>210.57</td>
<td>0.16</td>
<td>-0.441</td>
</tr>
<tr>
<td>Amount of reading</td>
<td>14</td>
<td>10435</td>
<td>24475</td>
<td>14979</td>
<td>4398.9</td>
<td>19350344</td>
<td>1.156</td>
<td>0.471</td>
</tr>
</tbody>
</table>

**Descriptive data of group B (less than 10,000 words)**

<table>
<thead>
<tr>
<th>Test</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading fluency pre</td>
<td>15</td>
<td>14</td>
<td>79</td>
<td>40.86</td>
<td>17.99</td>
<td>323.47</td>
<td>0.467</td>
<td>-0.249</td>
</tr>
<tr>
<td>Vocabulary pre</td>
<td>16</td>
<td>61</td>
<td>91</td>
<td>77.87</td>
<td>9.61</td>
<td>92.25</td>
<td>-0.272</td>
<td>-1.078</td>
</tr>
<tr>
<td>Grammar pre</td>
<td>16</td>
<td>59</td>
<td>94</td>
<td>74.75</td>
<td>12.26</td>
<td>150.33</td>
<td>0.375</td>
<td>-1.332</td>
</tr>
<tr>
<td>Reading pre</td>
<td>16</td>
<td>133</td>
<td>228</td>
<td>199.5</td>
<td>27.2</td>
<td>739.87</td>
<td>-0.863</td>
<td>0.75</td>
</tr>
<tr>
<td>Writing fluency pre</td>
<td>16</td>
<td>12</td>
<td>125</td>
<td>56.44</td>
<td>27.42</td>
<td>751.99</td>
<td>0.773</td>
<td>1.729</td>
</tr>
<tr>
<td>Amount of reading</td>
<td>16</td>
<td>550</td>
<td>9200</td>
<td>4983.1</td>
<td>2992.7</td>
<td>8955956</td>
<td>-0.98</td>
<td>-1.41</td>
</tr>
</tbody>
</table>

The statistical analysis shows that there were no significant differences between the two groups prior to this project. Both groups had similar deviations. This means that these two groups were roughly equivalent on my measures of English proficiency.

To investigate differences in progress between the two groups, two-way ANOVA was used to compare the pre-test, mid-test (reading fluency and writing fluency), and post-test scores of the higher and lower reading groups. The results will be explained in the next section.

### 3.5 Results from the Two Groups

Table 3.7 shows that the differences approached, but failed to reach, a level of significance on vocabulary progress between the two groups. No interaction effects between the independent variables are significant. This
means group A (which read the most), shows a slight tendency of vocabulary progress.

Table 3.7

Two-way ANOVA on Vocabulary

<table>
<thead>
<tr>
<th>SV</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups (A)</td>
<td>616.117</td>
<td>1</td>
<td>616.117</td>
<td>3.280†</td>
</tr>
<tr>
<td>Subjects (S)</td>
<td>4508.19</td>
<td>24</td>
<td>187.841</td>
<td></td>
</tr>
<tr>
<td>Number of times (B)</td>
<td>2524.315</td>
<td>1</td>
<td>2524.315</td>
<td>33.255**</td>
</tr>
<tr>
<td>A x B</td>
<td>1.238</td>
<td>1</td>
<td>1.238</td>
<td>.016ns</td>
</tr>
<tr>
<td>S x B</td>
<td>1821.762</td>
<td>24</td>
<td>75.907</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9471.622</td>
<td>51</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.8 suggests that there is a slight difference in writing fluency between the two groups and no interaction effects between the independent variables are found, which shows that group A (which read the most) shows a slight tendency of improvement in writing fluency.

Table 3.8

Two-way ANOVA on Writing Fluency

<table>
<thead>
<tr>
<th>SV</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups (A)</td>
<td>832.232</td>
<td>1</td>
<td>832.232</td>
<td>3.734†</td>
</tr>
<tr>
<td>Subjects (S)</td>
<td>4679.913</td>
<td>21</td>
<td>222.853</td>
<td></td>
</tr>
<tr>
<td>Number of times (B)</td>
<td>3263.106</td>
<td>2</td>
<td>1631.553</td>
<td>8.685**</td>
</tr>
<tr>
<td>A x B</td>
<td>126.758</td>
<td>2</td>
<td>63.379</td>
<td>0.337ns</td>
</tr>
<tr>
<td>S x B</td>
<td>7890.111</td>
<td>42</td>
<td>187.86</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16792.12</td>
<td>68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3.9 shows significant differences ($p < 0.05$) in grammar progress between the two groups. However, there are no interaction effects between the independent variables. Therefore, we have a good reason to say that group A made greater progress on grammar than group B.

Examining the differences of the progress between the two groups, group A which read the most, made significant progress on grammar and had a tendency to progress on writing fluency and vocabulary. This suggests that there was a possibility for the group which read the most to make significant progress on writing fluency and vocabulary if the project had continued longer. It seems logical to assume that each English skill requires a different period of time to improve through extensive reading.

Table 3.9

**Two-way ANOVA on Grammar**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups (A)</td>
<td>290.78</td>
<td>1</td>
<td>290.78</td>
<td>5.221*</td>
</tr>
<tr>
<td>Subjects (S)</td>
<td>1336.604</td>
<td>24</td>
<td>55.692</td>
<td></td>
</tr>
<tr>
<td>Number of times (B)</td>
<td>2287.191</td>
<td>1</td>
<td>2287.191</td>
<td>27.058**</td>
</tr>
<tr>
<td>A × B</td>
<td>120.499</td>
<td>1</td>
<td>120.499</td>
<td>1.426ns</td>
</tr>
<tr>
<td>S × B</td>
<td>2028.732</td>
<td>24</td>
<td>84.531</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6063.806</td>
<td>51</td>
<td></td>
<td>$*p&lt;.10$ $*p&lt;.05$ $**p&lt;.01$</td>
</tr>
</tbody>
</table>

3.6 Discussions of Study I

Using the research results, my hypotheses can be examined:

**Hypothesis 1:** Extensive reading will improve reading fluency and reading comprehension.

I expected that this hypothesis would be proved first, but in fact the
results did not provide any proof. The reason could be that it requires a longer period of time to make progress in reading fluency and reading comprehension, since the reading process is very complex.

Another possible reason could be that the amount of reading the students did was not enough to improve their reading fluency and reading comprehension. In fact, 74% of students showed a negative attitude toward English reading in the pre-research questionnaire and many of them described negative feelings toward English reading in the free-writing section of the questionnaire. Consequently, a longer period of extensive reading would be necessary for them to get accustomed to reading, and to acquire good reading habits. If the project had been conducted for a longer period, they would have read more, and may have made significant progress in reading fluency and reading comprehension. Krashen (2004) reports that a great deal of research shows extensive reading for more than one year has a marked effect on English proficiency.

Hypothesis 2: The more students read, the more improvement there will be in their vocabulary and writing fluency.

According to the results from the whole class, the students who read more showed a greater improvement in writing fluency. (See Tables 4 and 5). Regarding vocabulary improvement, statistical analysis of results from the two groups indicates that the group which read more displayed a tendency to progress on vocabulary. Considering this result, this hypothesis could be proved in a longer term project.
Hypothesis 3: Extensive reading will help students to gain a positive attitude toward English reading.

There was a correlation ($r = 0.380$, $p < 0.05$) between their attitude toward English reading in the pre-project questionnaire and the amount of reading done, and there was a strong correlation ($r = 0.479$, $p < 0.01$) between the amount of reading and their post-project attitude. Before the project, only 26% of students had shown a positive attitude toward reading in English, and many had expressed negative opinions about it:

“I can’t follow a story because of lots of unknown words.”

“It takes long time to understand the meaning because I have to consult a dictionary many times.”

“I need a dictionary to read English books, so I can’t read whenever or wherever I like. When I find an unknown word, I can’t continue reading.”

However, after the project, 40% of students showed a positive attitude toward reading in English. Many students expressed positive opinions about English reading in the post-project questionnaire. Some examples are:

“Before the project, I hadn’t been willing to read English books, but through the project I realized that I am able to read simple English books and have acquired confidence in English reading.”

“I had hated English, but through reading simple English books, I came
to feel pleasure in reading English books.”

"Now I can guess unknown words from the context."

"English reading was more fun than I had expected. I thought extensive reading would improve my English proficiency."

(translations mine)

There are enough grounds to conclude that hypothesis 3 is proved.

3.7 Limitations

The number of participants was quite small, so the results cannot be over generalized. Moreover, since the measures used in this study could examine only a very limited section of language skills, all the effects of extensive reading have not been revealed. Using different measures of language ability may have produced different results. Through reading students’ weekly comments and questionnaires, I gained the impression that they did not have extra opportunities for exposure to English, but it is possible that some students may have had extra English study outside the classroom. If they did, this could have influenced the results. Considering what we know about the process of reading, the time scale of this research seems short to fully investigate the effects of extensive reading. The results could be very different over a longer period of research.

In spite of these limitations, some progress was shown by students. It cannot be denied that extensive reading has positive effects on certain language skills and can alter learners’ attitudes toward reading from negative to positive.
4.1 Purpose of Study II

The data seems to indicate that the students all progressed at different rates. By examining and categorizing their patterns of progress, some characteristics of their progress may be revealed. Study II seeks to identify the characteristics of the students' progress during the extensive reading project.

4.2 Data Analysis

The students were separated into three groups according to their progress in each test and their attitude toward reading in English. The groups were determined by using cluster analysis with SPSS 11, a computer program for statistics.

The measures used for the cluster analysis were: the students' gains in the Assessment of Communicative English (ACE) test, reading fluency, and writing fluency, the amount of reading done, and their attitude toward reading in the pre- and post-project questionnaires. Before analysis the scores for each measure had to be standardized, because each measure had a different range of scores.

The cluster analysis was conducted using the Ward method with a squared Euclidean distance technique. This method was chosen because it could form clusters of approximately equal size from a small number of observations (Hair & Black, 1998). Initially the students were separated
into four groups according to the dendrogram from the cluster analysis, but one of these groups consisted of only one student, who turned out to be an extreme value, having graduated from a special English course at high school, and having experienced extensive reading there. After excluding this extreme value, cluster analysis was conducted again with the same procedures as mentioned above. The optimal number of clusters was decided by considering large increases in the error sum of squares. Skehan (1989) says:

Cluster analysis provides a mathematical index of the 'looseness' in the clusters at each stage of the agglomerative procedure. This measure, known as the error sum of squares, frequently shows sudden jumps, reflecting much greater looseness as new clusters are formed at certain stages of the analysis. (p. 23)

In this study, a sudden jump in the error sum of squares occurred between three and two, which means that there is much greater looseness in two clusters than in three clusters. This suggests that a three-cluster solution is considered to be the most natural division of the groups. The dendrogram from the analysis shows that the three-cluster solution is valid (See Figure4.1).

One-way ANOVAs were conducted on all variables. I also added the students' sense of the necessity for reading in English in the pre- and post-project questionnaires to check if there were some differences among the groups. The results confirmed that there were significant differences
among clusters.

Post hoc tests were also done using Tukey's multiple comparison technique.

![Dendrogram using Ward Method](image)

**Figure 4.1.** Dendrogram of the cluster analysis

4.3 Results

Table 4.1 indicates detailed results of the analysis and Figure 4.2 displays a graphical representation of the cluster profiles. The characteristics of each cluster are summarised in Table 4.2.
Table 4.1

Means, SD, and One-way ANOVAs for Effects of 3 Groups on 7 Dependent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cluster 1 (n = 8)</th>
<th>Cluster 2 (n = 11)</th>
<th>Cluster 3 (n = 5)</th>
<th>ANOVA F</th>
<th>p</th>
<th>Post hoc test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading fluency</td>
<td>0.96 ± 0.68</td>
<td>-0.49 ± 0.76</td>
<td>-0.45 ± 1.00</td>
<td>8.916</td>
<td>0.002</td>
<td>2&lt;1**, 3&lt;1**</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>-0.40 ± 0.94</td>
<td>-0.20 ± 0.93</td>
<td>1.09 ± 0.78</td>
<td>4.608</td>
<td>0.022</td>
<td>1&lt;3*, 2&lt;3*</td>
</tr>
<tr>
<td>Grammar</td>
<td>0.07 ± 0.76</td>
<td>-0.33 ± 1.24</td>
<td>0.76 ± 0.63</td>
<td>2.023</td>
<td>0.157</td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>0.05 ± 0.87</td>
<td>-0.48 ± 0.52</td>
<td>1.30 ± 1.06</td>
<td>9.111</td>
<td>0.001</td>
<td>1&lt;3*, 2&lt;3**</td>
</tr>
<tr>
<td>Amount of reading done</td>
<td>0.63 ± 1.03</td>
<td>-0.33 ± 0.76</td>
<td>0.85 ± 0.53</td>
<td>4.883</td>
<td>0.018</td>
<td>2&lt;1†, 2&lt;3*</td>
</tr>
<tr>
<td>Writing fluency</td>
<td>0.05 ± 1.16</td>
<td>-0.29 ± 0.97</td>
<td>0.42 ± 0.83</td>
<td>0.881</td>
<td>0.429</td>
<td></td>
</tr>
<tr>
<td>Positive attitude pre</td>
<td>1.02 ± 1.04</td>
<td>-0.48 ± 0.41</td>
<td>-0.08 ± 0.61</td>
<td>10.344</td>
<td>0.001</td>
<td>2&lt;1**, 3&lt;1*</td>
</tr>
<tr>
<td>Positive attitude post</td>
<td>0.72 ± 0.45</td>
<td>-0.72 ± 0.59</td>
<td>0.38 ± 0.69</td>
<td>16.530</td>
<td>0.000</td>
<td>2&lt;1**, 2&lt;3**</td>
</tr>
<tr>
<td>the need pre ^</td>
<td>0.70 ± 0.92</td>
<td>-0.25 ± 0.96</td>
<td>-0.77 ± 0.80</td>
<td>4.464</td>
<td>0.024</td>
<td>3&lt;1*</td>
</tr>
<tr>
<td>the need post b ^</td>
<td>0.32 ± 0.94</td>
<td>-0.36 ± 1.15</td>
<td>0.00 ± 0.81</td>
<td>1.036</td>
<td>0.372</td>
<td></td>
</tr>
</tbody>
</table>

* ^ superscript indicates necessity for reading in the pre- and post-project questionnaire

p<0.1, *p<0.05, **p<0.01

![Graphical summary of learner profiles](image)

Figure 4.2. Graph of each cluster (group)

(Variables)

A Progress of reading fluency
B Progress of vocabulary
C Progress of grammar
D Progress of reading
E The amount of reading done
F Progress of writing fluency
G Positive attitude toward English reading in pre-project questionnaire
H Positive attitude toward English reading in post-project questionnaire
I Sense of necessity for English reading in pre-project questionnaire
J Sense of necessity for English reading in post-project questionnaire

---

[^]: necessity for reading in the pre- and post-project questionnaire
Table 4.2

Summary of Progress Profiles for the Three Clusters

Cluster 1
- a positive attitude toward English reading before the project
- large amount of reading done
- great progress in reading fluency

Cluster 2
- a negative attitude toward English reading before the project
- a negative attitude toward English reading after the project
- the least amount of reading done
- very little progress overall

Cluster 3
- a negative attitude toward English reading before the project
- a positive attitude toward English reading after the project
- little necessity for English reading before the project
- necessity for English reading after the project
- the largest amount of reading done
- great progress in reading and vocabulary

Next, other characteristics of the individual groups were examined. One-way ANOVAs were run on each test (pre- and post-tests on ACE, reading fluency, and writing fluency; mid-tests on reading and writing fluency), and attitude toward reading in Japanese in the pre- and post-project questionnaires. Then Tukey's tests were conducted as post hoc tests. The results showed no significant differences among the three groups on each pre-test with similar data variance, reporting that they were roughly equivalent on the measures of English proficiency before the project. Moreover, the three groups had no statistical difference on
attitude toward reading in Japanese before and after the project. No relations between L1 reading and L2 reading were discovered from these results.

From the results on each post-test, statistically significant differences among the three groups were revealed for reading fluency (cluster1 > cluster2; $p < 0.01$, cluster1 > cluster3; $p < 0.05$), reading (cluster3 > cluster2; $p < 0.01$, cluster3 > cluster 1; $p < 0.05$), and writing fluency (cluster 3 > cluster 2; $p < 0.05$). Interestingly, there were no significant differences in writing fluency from the “progress (gains)” point of view as mentioned, but there were, looking at the post-test. Considering that the three groups were roughly equivalent before the project, it seems reasonable to suppose that cluster 3 made more progress in writing fluency than cluster 2.

Here is a summary of the profiles of each cluster:

Cluster 1 ($n = 8$): The students had a positive attitude toward English reading from the beginning and read more than cluster 2 did. The progress in reading fluency was drastic.

Cluster 2 ($n = 11$): These students had a negative attitude toward English reading before the project and read the least of the three groups. Their negative attitude toward English reading did not change after the project. Progress in each test was minimal compared to the other groups.

Cluster 3 ($n = 5$): They had a negative attitude toward English reading before the project, but read the most of the three groups. They adopted a positive attitude toward reading in English and started to feel the need for English reading after the project. They made progress in vocabulary, reading, and writing fluency.
4.4 Discussions of Study II

First, a comparison between cluster 2 and clusters 1 and 3 is drawn. Cluster 2 read the least of the three and did not change their negative attitude toward English reading throughout the project. On the other hand, cluster 3 had a negative attitude toward reading in English at the beginning but after doing the largest amount of reading of the three, they adopted a positive attitude. Cluster 2 read the least and made little progress in English proficiency. However, cluster 1 made considerable progress in reading fluency, and as for cluster 3, vocabulary, reading, and writing fluency improved. Judging from the above, it is clear that the more they read the more positive attitude toward English reading they adopted. Moreover, it is likely that the more they read, the more progress they made in English proficiency.

Secondly, the focus is shifted to a comparison between cluster 1 and cluster 3. Both clusters read a large amount but their progress was quite different. Cluster 1 achieved improvement in reading fluency but cluster 3 made progress in vocabulary, reading and writing fluency. It is possible that each cluster has different learning styles and reading strategies. This may suggest that different learning styles and reading strategies influence their progress in English proficiency. To reach a conclusion on this point, further research will be needed.

4.5 Limitations

Cluster analysis provides information about forming clusters, but does not have automatic criteria for the decision as to when to stop clustering.
The decision has to be made by the researcher. Therefore, the decision can be subjective. Moreover, the clustering program can categorize students from the data but not interpret the profile for each cluster. It is the researcher's task to make an interpretation of each cluster's profiles. Thus, it is impossible to completely exclude subjective judgement. Despite these shortcomings, however, cluster analysis is still very useful and helpful in categorizing the data and finding the characteristics of each cluster group. Therefore, the results of this study must be illuminating for practitioners as well as researchers.
Chapter 5

SUMMARY

5.1 Conclusion of This Research

Many researchers around the world have studied extensive reading, but as I mentioned in section 1.5, most of the research projects used two groups: an experimental group and a control group, which caused difficulties in making the learning conditions of the two groups equal with the only difference being their extensive reading input. In this research, no control group was used and the data analysis focused on the amount of reading done.

In Study I, I aimed for verification of the students’ progress under three hypotheses:

Hypothesis 1: Extensive reading will improve reading fluency and reading comprehension.

Hypothesis 2: The more students read, the more improvement there will be in their vocabulary and writing fluency.

Hypothesis 3: Extensive reading will help students gain a positive attitude toward English reading.

In Study II, I investigated the characteristics of the students’ progress as a result of extensive reading.

The results of Study I confirm hypothesis 3. As for hypothesis 2, statistical analyses verify that students who read a lot increased their vocabulary and suggest that they have a tendency to progress in writing
fluency, which could mean that their writing fluency will improve in a longer term project. Hypothesis 1 (extensive reading will improve reading fluency and reading comprehension) is not proved in this study, but this does not deny that extensive reading improves reading fluency and reading comprehension. Reading itself is a complicated process as mentioned in Chapter 1, thus, it is possible that progress in reading fluency and reading comprehension requires a long period of time. It is not unreasonable to suppose that hypothesis 1 will be proved in a long term project. There is room for further research in order to verify hypotheses 1 and 2.

From the results of Study II, it is clear that students who read a large amount adopted a positive attitude toward English reading, and it is likely that these students made greater progress in English proficiency. Moreover, the cluster analysis showed that the effect of extensive reading varied a lot between different students. My assumption is that students' learning styles and reading strategies caused the differences. Further research will be needed to make it clear whether the difference in effects of extensive reading is directly related to learning styles and reading strategies. In this study, I focused only on the quantitative data, but in order to analyse the effect of extensive reading further, qualitative data on learners' learning styles and reading strategies should be analysed in future research.

From my research it is clear that extensive reading does have a positive effect on English skills. It is also clear that the reading should be continued for at least one year and that it is important to motivate students to read as much as possible.
5.2 Pedagogical Implications

Students who made the most progress read around 15,000 words in 12 weeks. The fact that most students continued to read starters or level 1 graded readers throughout the project suggests that the students who made the most progress read at least one book per week.

From an instructional point of view, successful extensive reading should provide students with opportunities to read at least one book per week. In this project, students were required to hand in reading reports every week, but this was not enough incentive for students who have little interest in English reading. Without effective enforcement, half of the students did not read enough to advance their language skills and adopt a positive attitude toward reading, which implies that teachers need to do more at the beginning to encourage students to acquire good reading habits. Since the main purpose of extensive reading is pleasure reading, the enforcement should neither give unpleasant experiences nor demotivate their reading. There are many strategies teachers could use to increase the reading motivation of their students. Some examples are: scheduling "reading time" into classes and allowing students to exchange comments on good books they have read.

I think that language teachers have a responsibility to introduce various methods of learning a language outside the classroom to their students and to encourage them to continue study after finishing school. From the results of this study, we can draw a firm conclusion that extensive reading improves students' language skills and helps develop positive attitudes toward reading. Introducing extensive reading to students will be
a great help toward instilling a lifelong love of language learning.
REFERENCES


London: Edward Arnold.


Appendix A

Book Report: Please fill this out in English or in Japanese even if you only read one page of the book.

Your name: ___________________________ Student Number: __________
Title of book (level): ___________________________
Author: _________________________________
Publisher: __________________________________
I read all / _____ pages of the book. (Circle “all” or indicate the number of pages read)

How did you like the book? (Circle one)
   (a) Great! (I loved it)
   (b) Good (I liked it)
   (c) OK (I didn’t mind reading it)
   (d) Boring / Stupid (I wish I hadn’t read it)

Outline of the book: ______________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Your comment: __________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Appendix B

多読にあたってのアンケート
このアンケートは皆さんの英語のリーディングに関する気持ちをたずねるもので、個人を比較することは、この調査の目的には全く含まれていませんので、正直に書いてください。みなさんの英語のリーディングに関する気持ちを探ることにより、その動向をとらえ、英語教育を模索する貴重なデータを使用させていただきます。まず以下の項目についてあてはまるところに〇をつけてください。

①学生番号（  ）
②あなたはこれまでに英語圏の国または地域に一定期間滞在したことがありますか。
（  ）ある （  ）ない
③②で「ある」と答えた人だけにお尋ねします。滞在期間は次のどれにあてはまりますか。
（  ）二週間以内 （  ）一ヶ月以内 （  ）三ヶ月以内
（  ）六ヶ月以内 （  ）一年以内 （  ）二年以内
（  ）二年以上

A. 普段の読書習慣について
・普段読書をするのが、（〇で囲んでください）
  1.好き  2.どちらかというと好き  3.あまり好きではない  4.嫌い

・読書が好き（嫌いな）理由は、________________________________________

________________________________________

・読書のペースは、（〇をつけてください）
  1.ほぼ毎日読む  2.一週間に一、二冊程度  3.一ヶ月に数冊  4.あまり読まない

B. 英語の reading について
・英語の reading は、（〇をつけてください）
  1.好き  2.どちらかというと好き  3.あまり好きではない  4.嫌い

・英語の reading が好きな（嫌いな）理由は、________________________________________

________________________________________
C. 英語で一番苦手な分野は何ですか？（1つに〇をつけてください）
1.リスニング  2.会話  3.文法  4.リーディング  5.作文  6.ない

・上記の分野が苦手な理由は、____________________________________________________

____________________________________________________

D. 英語の reading は必要だと思いますか？（〇をつけてください）
1.とてもそう思う  2.まあそうだと思う  3.あまりそう思わない  4.全くそう思わない

・英語の reading が必要だと思う（思わない）理由は、__________________________________

____________________________________________________

E. 多読をするにあたって思ったことを自由に書いてください。

____________________________________________________

____________________________________________________

____________________________________________________
Appendix C (English translation of Appendix B)

Pre-project Questionnaire
The aim of this questionnaire is to ask your feelings about reading in English. This questionnaire will not be used for assessment, so please write down what you feel honestly. By investigating your attitude toward English reading, I would like to study the trends and use the data for finding a better way of English education. Please circle the items below.

1. Student Number ( )
2. Have you spent time in English-speaking countries?
   ( ) Yes  ( ) No
3. If you say "yes" in question 2, how long were you there?
   ( ) less than two weeks  ( ) less than a month
   ( ) less than three months  ( ) less than half a year
   ( ) less than one year  ( ) less than two years
   ( ) more than two years

A. Your daily reading habits.
   • Reading  (Please circle.)
     1. like very much  2. like  3. dislike a little  4. dislike

   • The reason that you like/dislike reading is ________________________________
     __________________________________________________
     __________________________________________________

   • Amount of reading  (Please circle.)
     1. I read almost every day.  2. I read one or two books per week.
     3. I read a few books per months.  4. I don’t read much.
B. Reading in English

• Reading in English (Please circle.)
  1. like very much  2. like  3. dislike a little  4. dislike

• The reason that I like/dislike reading in English is ______________________
  ________________________________________________________________
  ________________________________________________________________

C. What part of English do you think you are not good at?

(Please circle one.)

  1. listening  2. conversation  3. grammar  4. reading
  5. composition (writing)  6. nothing

• The reason that you think you are not good at this skill is ___________
  ________________________________________________________________
  ________________________________________________________________

D. Do you think reading in English is necessary? (Please circle.)

  1. definitely necessary  2. probably necessary
  3. maybe not necessary  4. not necessary at all

• The reason that you think reading in English is necessary/unnecessary is
  ________________________________________________________________
  ________________________________________________________________

E. Please write down what you think about starting the extensive reading project.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Appendix D

多読を終えてのアンケート

このアンケートは皆さんのおのが英語のリーディングに関する気持ちをたずねるもので、個人を比較することはありません。本調査の目的は、正直に書いてください。みなさんの英語のリーディングに関する気持ちを探ることにより、その動向をとらえ、英語教育を模索する貴重なデータを使用させていただきます。

学番号（  ）

A. 普段の読書習慣について

・普段読書をするのが、(〇で囲んでください)

1.好き　2.どちらかといえば好き　3.あまり好きではない　4.嫌い

・読書が好き（嫌いな）理由は、____________________________________

                                                   
                                                   

・読書の頻度は、(〇をつけてください)

1.ほぼ毎日読む　2.一週間に一、二冊程度　3.一ヶ月に数冊　4.あまり読まない

B. 英語の reading について

・英語の reading は、(〇をつけてください)

1.好き　2.どちらかといえば好き　3.あまり好きではない　4.嫌い

・英語の reading が好きな（嫌いな）理由は、____________________________________

                                                   
                                                   

C. 英語で一番苦手な分野は何ですか？（1つに〇をつけてください）

1.リスニング　2.会話　3.文法　4.リーディング　5.作文　6.ない
D. 英語の reading は必要だと思うますか？（〇をつけてください）
1. とても思う思う 2. まあそうだと思う 3. あまりそう思わない
4. 全くそう思わない

・英語の reading が必要だと思う（思わない）理由は、

E. 多読をし、自分に変化があったと思うことを書いてください。（無ければなしと書いてください。）

気持ちの面での変化：

技能の面での変化：

英語の reading に対するイメージ：

F. 多読について面白かった点、役に立つと思ったことなどがあれば書いてください。

みなさんのご協力本当にありがとうございました！！
Appendix E (English translation of Appendix D)

Post-project Questionnaire

The aim of this questionnaire is to ask your feelings about reading in English. This questionnaire will not be used for assessment, so please write down what you feel honestly. By investigating your attitude toward English reading, I would like to study the trends and use the data for finding a better way of English education. Please circle the items below.

1. Student Number ( )

2. Have you spent time in English-speaking countries?
   ( ) Yes  ( ) No

3. If you say “yes” in question ②, how long were you there?
   ( ) less than two weeks  ( ) less than a month
   ( ) less than three months  ( ) less than half a year
   ( ) less than one year  ( ) less than two years
   ( ) more than two years

A. Your daily reading habits.
   • Reading (Please circle.)
     1. like very much  2. like  3. dislike a little  4. dislike

     • The reason that you like/dislike reading is ________________________________
       ________________________________

     • Amount of reading (Please circle.)
       2. I read almost every day.  2. I read one or two books per week.
       3. I read a few books per months.  4. I don’t read much.

B. Reading in English
   • Reading in English (Please circle.)
     1. like very much  2. like  3. dislike a little  4. dislike

     • The reason that I like/dislike reading in English is ________________________________
       ________________________________
C. What part of English do you think you are not good at? (Please circle one.)
1. listening  2. conversation  3. grammar  4. reading
5. composition (writing)  6. nothing

· The reason that you think you are not good at this skill is __________

· ____________________________
· ____________________________

D. Do you think reading in English is necessary? (Please circle.)
1. definitely necessary  2. probably necessary
3. maybe not necessary  4. not necessary at all

· The reason that you think reading in English is necessary/unnecessary is __________

· ____________________________
· ____________________________

E. Please write down any changes you experienced after the extensive reading project. (If you don't feel there have been any changes, please say so.)

Changes in your attitude:

· ____________________________
· ____________________________

Changes in your skills:

· ____________________________
· ____________________________

Changes in your image of reading in English:

· ____________________________
· ____________________________

F. Please write down what you found interesting or helpful about extensive reading if you found any.

· ____________________________
· ____________________________
· ____________________________
· ____________________________
· ____________________________

Thank you very much for your cooperation.
Appendix F

Feline Friends

Domestic cats are classified as either long haired or short haired. Long-haired types were developed in Persia and Afghanistan. Short-haired types were developed in Egypt, Europe, and Asia.

Usually, short-haired cats are active and playful, and easier to care for than long-haired ones. Long-haired cats are quiet, stay-at-home pets, but they sometimes need extra care because of their long hair.

You can buy a bed for your cat or you can make one from a box or basket. The bed should be in a quiet part of the home away from drafts. It should be lined with a blanket, cushion, or discarded clothing. The bedding must be kept clean.

A cat should have a balanced diet. Cat foods from the market usually provide good nourishment under normal conditions.

A cat should not be given small bones that are likely to splinter, especially bones from pork or chicken.

Although a cat may lick its bowl clean, it should be rinsed after each use. Fresh water should be available at all times. The same bowl should not be used for water as is used for food.

Kittens usually are weaned when they are about six to eight weeks old. They keep some of their baby teeth until they reach six months. They must be fed four times a day until they lose their baby teeth.

As the kittens grow, they will gradually eat more food. The number of feedings will decrease to twice daily by the time they are eight or nine months old.

Normally cats should not be bathed. They clean their fur by licking it. If a cat gets dirty, it may be bathed in warm, soapy water.

Its skin must be rubbed thoroughly with a cloth. The water must be kept out of its eyes and ears. It must be rinsed in warm water and dried thoroughly. It must be kept indoors until completely dry.

Cleaning preparations for cats also may be used.

A cat must be brushed often, especially if it has long hair. Brushing gets loose hairs out of its coat that otherwise would get on the furniture and rugs. Knots form in the coats of long-haired cats. The knots can be pulled apart with a comb. If that fails, blunt scissors can be used. Keeping your cat and its eating area clean helps keep away fleas and pests.
Recalling Facts
1. Long-haired cats were
developed in
   a. Egypt.
   b. Asia
   c. Afghanistan.

2. Long-haired cats tend to be
   a. quiet
   b. curious
   c. playful

3. A cat should not be given
   a. chicken bones.
   b. beef bones.
   c. lamb bones.

4. Until kittens lose their baby teeth,
   they must be fed
   a. twice a day.
   b. three times a day.
   c. four times a day.

5. Kittens are usually weaned
   when they are no older than
   a. four weeks
   b. eight weeks.
   c. twelve weeks.

Understanding the Passage
6. The author implies that kittens
   must be fed often because they
   a. like to eat.
   b. have small stomach.
   c. digest food slowly.

7. The author recommends
   a. bathing cats at least once a month.
   b. using scissors for knots in fur.
   c. giving cats vitamins.

8. From the facts provided, the
   reader can assume that
   a. water is harmful to a cat’s ears.
   b. cats enjoy sleeping in paper bags.
   c. domestic cats are related to tigers and lions.

9. Cat food that can be purchased
   in the market
   a. is often lacking in important vitamins.
   b. contains adequate nutrition for most cats.
   c. should not be offered at every meal.

10. We can conclude from the article
    that cats
    a. are fussy eaters.
    b. are easy to train.
    c. require a minimum of care.
Appendix G

Better Safe Than Sorry

Every year a great number of babies and young children die or are injured in fires. One out of every five fires is caused by carelessness smoking or by children playing with matches and lighters. Don't tempt children by leaving matches or lighters around a room.

Never leave a child alone in a house. In just a few seconds, they could start a fire. Or a fire could start and trap them. A child will panic in a fire and will not know what to do. Unless a parent is around to help, a child may try to hide under a bed or in a closet. Home fire drills are a sound idea. The best way to stop panic in case of fire is to know what to do before a fire breaks out.

Your first thought in a fire should always be escape. Far too many people become victims because they do not know the killing power and speed of fire. If a fire is very small and has just started, you can put it out yourself. Do this if you have the proper tools on hand. In any case, always send the children outside first. Smoke, not fire, is the real killer in a blaze. According to studies, as many as eight out of ten deaths in fires are due to inhaling fumes long before the flames ever came near the person.

Burns are another danger to small children. Fireplaces, space heaters, floor heaters, and radiators have all caused horrible burns to babies. Since you cannot watch your child all the time, you must screen fireplaces. Put guards around heaters and radiators.

Some people use a vaporizer or portable heater in a child’s room. If you do, be sure you place it out of reach. Be sure, too, that it is not placed too close to blankets or bedclothes.

Use care in the kitchen. It is not safe to let an infant crawl or a small child walk around the kitchen while you are preparing meals. There is danger of your tripping and spilling something hot on the child. There is even danger of a child pulling a hot pot off the stove on to herself. Also, do not use tablecloths that hang over the table edge. Children can easily pull the cloth and whatever is on the table down. Be aware of these dangers and protect your child.
Recalling Facts

1. Careless smoking or children playing with matches and lighters causes
   a. one out of five fires.
   b. two out of three fires.
   c. five out of eight fires.

2. The first thought in a fire should be always be
   a. prevention
   b. putting it out.
   c. escape.

3. What is the real killer in a fire?
   a. flames
   b. smoke
   c. heat

4. How many people die in fires from inhaling deadly smoke fumes?
   a. two out of three
   b. five out of eight
   c. eight out of ten

5. Burns can be caused by
   a. harmful toys.
   b. old tin cans.
   c. space heaters.

Understanding the Passage

6. We can see that
   a. adults know how to handle fires.
   b. many children start fires in the home.
   c. some fire fighters are not well trained.

7. When children are trapped in a fire, they often become
   a. confused.
   b. silly.
   c. nervous.

8. The best way to stop panic in the case of fire is to
   a. be prepared.
   b. call fire fighters.
   c. run away.

9. Using potable heaters in a child's room can be
   a. untidy.
   b. dangerous.
   c. convenient.

10. Why is it dangerous to let a small child walk around the kitchen while you are preparing meals?
    a. Because the child may eat something dangerous.
    b. Because you may spill something hot on the child.
    c. Because the child may fall down and get hurt.
Appendix H

The Right Choice

Fresh or frozen, canned or dried, instant or from scratch? Which foods have the nutrients? Which do not? The fact is they all do. All foods have their place. And almost all food in its place is good food. Some foods are safer to use when they are processed. Some are more appealing when they are fresh. It's a good idea to know your foods. Packaged, pasteurized, fortified milk has been around for so long that no one thinks of it any more as a processed food, but it is. Because milk is pasteurized, or processed, it is now safe to drink. Milk which has not been heat-treated may carry many germs that can make us sick.

Buy cake and cookie mixes, or start from scratch? It depends on how much free time you have. While a cake from a mix can have the same nutritional value as your own, it may also have unwanted chemical preservatives.

Which bread is the best? Whole grain breads and cereals retain the germ and outer layers of grain where the B vitamins are. When wheat is milled into white flour, however, it loses these precious vitamins. Therefore, when you buy white bread, it is wise to choose the enriched kind because of added nutrients.

Fresh or frozen? Foods in the frozen food case offer as much food value as those in the produce section of the store. The choice you make depends on which foods you prefer and the amount of money you want to spend. Any loss of vitamin C in frozen fruits is minimal. Well-packaged frozen meat and fish are nutritious. They have the same food value as those that are bought right from the butcher or the fish store.

Surprisingly, fresh or raw foods are not always better than canned or frozen ones. It depends on how much they are handled. For instance, leafy, dark green vegetables packed in crushed ice keep a lot of their vitamin C on the way to the store. But if they are left to sit for five days or so, they lose about half of it. Cooking will also cause some vitamin loss. Although the loss may be great, these vegetables contain large amounts of vitamins. They still provide good amounts of vitamin C and vitamin A when they are eaten.

Choosing the proper food is no game. It is a serious matter and one that we should pay attention to.

Reading Time ( ) Comprehension Score ( ) Words per Minute ( )
Your Name ( ) Student Number ( )
Recalling Facts
1. Milk which has not been heat-treated may carry many
   a. chemicals.
   b. germs.
   c. vitamins.

2. Enriched bread has added
   a. color.
   b. flavor.
   c. nutrients.

3. Frozen fruits lose only a small amount of
   a. vitamin A.
   b. vitamin B.
   c. vitamin C.

4. Frozen meat is nutritious as long as it is properly
   a. aged.
   b. packaged.
   c. stored.

5. Fresh vegetables lose some of their vitamins when they are
   a. cooked.
   b. packed.
   c. pickled.

Understanding the Passage
6. What is this article mostly about?
   a. good food
   b. junk food
   c. fresh food

7. Processing a food may make it
   a. less expensive.
   b. more delicious.
   c. safer to eat.

8. Milk is
   a. a long-lasting food.
   b. a processed food.
   c. an unpackaged food.

9. Whole grain breads are more nutritious than
   a. frozen fish and meat.
   b. store-bought mixes.
   c. white milled wheat.

10. We can see that fresh and frozen foods have
    a. many kinds of germs.
    b. little vitamin C.
    c. the same food value.