Relationships between Syntactic Pauses in Read-Aloud Performance and English Reading Ability of Thai EFL Learners

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Abstract
This study investigated whether relationships existed between the reading comprehension ability and the use of syntactically-related pauses in read-aloud performance of Thai EFL learners. English reading ability was measured through achievement test scores obtained from a reading skill course that the students took during the semester. Syntactic pausing was evaluated in terms of the use of erroneous syntactic pauses in reading-aloud performance. Following the read-aloud test, a short comprehension quiz was administered to check the students’ comprehension of the passage. The participants were 60 third-year English majors classified as intermediate EFL learners based on their average scores on an in-house test of English proficiency. The results reveal that the performance of the students varied substantially in their reading ability and the use of syntactic pauses. The correlation analysis indicates a statistically significant, although moderate, correlation between these two abilities. The correlation between syntactic pausing and the comprehension quiz was relatively low, but significant at the 0.05 level.

Key Words: syntactic pauses, thought groups, reading-aloud or oral reading, reading ability

1. Introduction
The ability to use pauses properly is important in spoken language. Pauses play a crucial role in segmenting an utterance into smaller meaningful units, which aids the listener in understanding the message. In speaking or oral reading (i.e. reading out loud, as Americans call it, or reading aloud, as the British say), if pauses are used inappropriately, the result is difficulty on the part of the listeners to follow the thread of speech (Wennerstrom, 1994). Research (e.g. Wu, 2003; Strangert, 2004; Zvonik, 2004) has examined relationships between pause and syntactic structures of English and found a link between the reader’s ability to chunk language and produce pause-defined units (i.e. units of information between pauses) which are related to immediate constituent grammar. In the author’s previous study (Isarankura, 2013), an attempt was made to analyze pause location and distribution on the basis of syntactic structures in read speech of native English speakers and Thai learners with relatively high and low English proficiency levels. The results showed a relationship between pause and syntax at the phrase, clause and sentence boundaries.

Similar to speaking, reading, no matter whether it is done orally or silently, requires the reader to divide text into meaningful units. Meaning of text is related to a language learner’s ability to group words into meaningful phrases or thought groups, which aid language comprehension. Effective reading should be done with correct phrasing of information into thought groups or sense groups, i.e. meaningful units of words that are grammatically and semantically related with each other (Crystal, 1997). While higher reading ability is said to be dependent on the ability to effectively process chunks of words, children who have reading problems often lack
parsing or chunking skills. In second or foreign language learning, a learner who does not know how to chunk properly may have difficulties reading in the second language (Alderson & Urquhart, 1984, cited in Johnson & Moore, 1997). Levelt (1993, cited in Johnson & Moore, 1997) proposed that the learner’s ability to read language in proper grammatical units may have a parallel in one’s ability to speak in appropriate chunks so that the information can be more readily accessible to the listener. Reading-aloud, or oral-reading, which combines the ability to read with the ability to speak, can be used to determine the ability of L2 learners to read and speak using appropriate syntactic chunks.

2. Review of Theory and Relevant Research

2.1 Information Processing

Information is processed by a series of human processing systems, such as attention, perception, and short-term memory (McLeod, 2008). The received information can be stored, retrieved and transformed using mental programs, resulting in behavioral responses. In the reading process, the eye receives visual information, decodes information and sends it to the brain where it is stored and coded. Then, the information is transformed systematically, and the output (i.e., behavioral response) might be reading what appears on the printed page either silently or orally.

2.2 Linguistic and Syntactic Processing

Linguistic knowledge is classified into levels: phonetics or graphetics, phonology or orthography, morphology, syntax, semantics and pragmatics. According to Field (2003), these levels of linguistic knowledge are stored in the long-term memory (LTM). In language acquisition, a language learner needs to have the ability to analyze and process linguistic input in appropriate ways. It is believed that, in the perceptive domain, linguistic information is processed from the smallest to the largest units, or bottom-up processing. That is, the process begins with sounds (or letters), and then proceeds to words, sentences and meanings. In the productive domain, on the other hand, information is processed from larger to smaller units, beginning from meanings of utterances to sentences, words, and sounds (or letters), as shown above.
Syntactic processing is said to be a complex phenomenon. Syntax involves the construction of syntactic representations constrained by rules which specify the hierarchical constituent structures at the phrase, clause, and sentence levels. Successful syntactic processing requires sufficient amounts of syntactic knowledge stored in a learner’s long-term memory and working memory so it is available for linguistic processes. Clahsen & Felser (2006) maintain that second language (L2) learners’ processing of complex syntax may remain nonnative-like due to a lack of relevant syntactic knowledge even after many years of L2 usage and exposure to the English language.

### 2.3 Linguistic Processing of a Read-Aloud Task

In performing a read-aloud task, the reader begins processing the first chunk of information which appears in the text within the perceptive domain. To comprehend the message, the working memory will match the received information with the linguistic knowledge (e.g., theoretical grammar and theoretical lexicon) stored in the long-term memory. Then, the reader will use the linguistic and motor programming in the productive domain to create the output by reading the first chunk of processed information out loud. To get new information from the text, the reader starts reading again and processing the next chunk of information. The same process will be repeated until the whole text has been read.

### 2.4 Pauses and Syntactic Processing in Read-Aloud Performance

Pause refers to a perceptible stop and start in the speaker’s speech. There are physical and psychological pauses (Zellner, 1994). Physical pauses depend on linguistic contexts and can occur within sentences as well as at sentence boundaries. Psychological (or mental) pauses are those independent of linguistic factors but are perceived by the hearer in connected speech. In this study, only physical pauses were investigated.

As stated earlier, pauses are used to chunk information in spoken language. Evidence from many studies (e.g. Wu, 2003; Zvonik, 2004; Strangert, 2004) has shown a positive correlation between pauses and syntactic structure, which suggests that the use of pauses entails syntactic processing of the speaker. The results of those studies also indicate that pause occurrence is strongly correlated with the degree of cohesion between words in the utterance. The locations of pauses normally occur at major syntactic boundaries like clauses and sentences, which are referred to as strong boundaries. In addition to boundary strength, pause locations are also affected by the complexity and the length of a syntactic constituent. Thus, for L2 learners to be able to read in appropriate chunks, knowledge of L2 constituent grammar or the ability to recognize relationships between structural parts of a sentence plays a crucial role. Learners’ ability to process information in an L2 setting differs depending on varying amounts of knowledge in the second language that have been stored in their long-term memory. The explicit evidence of the processed information in the learners’ read-aloud task could be measured in terms of the number of appropriate chunks between pauses, phonetically referred to as pause-defined units (PDUs) or the units of information between pauses, which correlate with English syntactic units.

### 2.5 Reading-Aloud or Oral Reading and Reading Ability

One focal area of research in reading-aloud ability is to examine whether a relationship exists between reading proficiency in English and the ability to read aloud using correct syntactic chunks. Fujinaga (2003) conducted a pilot study investigating whether there is a correlation between Japanese learners’ English reading proficiency and their ability to read aloud properly. The results revealed a significant positive correlation between the participants’ reading
proficiency in EFL and their ability to read aloud in correct thought/sense groups. However, the analysis from this study also indicated that reading aloud in correct sense groups may not lead to text comprehension while reading aloud.

2.6 Silent versus Oral Reading and Comprehension
Related research has investigated efficacy of silent versus oral reading on comprehension of first language (L1) learners and found inconclusive results. Past research in the 1970s (e.g. Swalm, 1972 and Elgart, 1978, as cited in McCallum et al. 2004) found oral reading to produce superior comprehension for young or low ability readers. More recently, Fletcher and Pumfrey (1988, cited in Fujinaga, 2004) found that oral reading led to greater comprehension than silent reading for 7 and 8 year old children. Other studies, however, found mixed results. Miller and Smith (1985, cited in Fujinaga, 2004), for example, found that low ability readers had significantly higher oral reading scores, while medium ability readers had significantly higher scores in silent reading. High ability readers did not differ in their scores of both reading types. Rowell (1976, cited in McCallum et al. 2004) found comprehension to be higher in oral reading for urban/suburban fifth graders and for males, but not for rural fifth graders and females.

Unfortunately, little research has been conducted to investigate the differences between oral reading and silent reading, which facilitates comprehension of L2 learners. Results from a few studies (Hatori, 1977; Takanashi and Takahashi, 1987, cited in Fujinaga, 2004) conducted on Japanese students reported similar results that the students did not have higher comprehension in oral reading than silent reading. Fujinaga (2004) investigated the effects of oral and silent reading on text retention in L2 reading. The results showed no significant differences between oral and silent mode in two relative English proficiency groups. Inconclusive results from previous studies suggest that some textual factors, such as style, register, text complexity and difficulty, may yield either positive or negative effects on the students’ performance.

Motivated by previous research work, this study aims primarily to investigate whether there is a correlation between English reading ability and syntactically-related pauses in read-aloud performance of Thai EFL learners. In addition to this main objective, an examination of the relationship between oral reading and comprehension was also incorporated in this study to find out whether oral reading would have a positive impact on comprehension among intermediate Thai learners. It is hoped that the study will provide some insights with regard to the benefits of reading aloud as a useful classroom activity, which combines reading skills with speaking skills. Reading aloud can be encouraged for use as a method to develop learners’ intelligible oral fluency and enhance their reading ability.

3. Methodology

3.1 Participants
The participants were 60 third-year English majors studying in a private university in Bangkok, Thailand. These students have studied English for 8 to 12 years. Based on the students’ average score on an in-house English proficiency test of 60.42 from the total score of 100, their English proficiency level was classified as intermediate learners of English. These students were asked to participate in the study, but were not informed of the language aspects to be investigated prior to the experiment.

3.2 Instruments
The instruments used in the study consisted of two tasks. The first task was a read-aloud test of an unseen passage containing 151 words. Although the passage included many complex sentences and dependent clauses, it was determined to be easily readable. This passage was used in the previous year with students of similar English proficiency level and was comparable to the experimental group. None of the vocabulary items were unknown, and the sentence length and complexity were within the English proficiency level of the participants. The passage was chosen for its predictability for pausing. To predetermine whether pauses were predictable, the passage was given to two native readers to read-aloud and to two linguistics experts to mark syntactic pauses. The second task was a comprehension quiz containing 6 multiple choice questions, which were given immediately after the read-aloud task to test whether the participants comprehended the passage while reading aloud.

3.3 Data Collection
Both instruments were administered in a language laboratory. The participants were instructed how to record their speech using the Sound Forge 9 program. Then they were asked to read-aloud the passage ‘at sight’ while paying attention to meaning. This aimed at preventing the participants from eye-mouth reading with no comprehension. Their read-aloud speech was audio-recorded. Immediately after the participants finished the first task, the reading passage was taken back from each participant and the 6-item comprehension quiz was given to check their comprehension.

3.4 Scoring
The scoring of the three variables was conducted as follows:

(a) Scores of the participants’ read-aloud performances were obtained according to the following procedures. First, pauses of 200 milliseconds (ms) or greater produced by the participants were acoustically detected by the PRAAT sound analyzing software, version 5.1.15. The performance of the students’ read-aloud test was analyzed by counting the number of pauses placed at inappropriate positions based on prior syntactic analysis for predetermined incorrect pausing.

(b) Scores on the correct answers in the 6-item comprehension quiz were collected to represent the participants’ ability to comprehend the passage while reading aloud, hereinafter referred to as ‘comprehension quiz’.

(c) The participants’ English ‘reading ability’ was operationally defined by their achievement test scores which were obtained from a reading skill course that the students were enrolled in during the semester that the data was collected.

3.5 Data Analysis
The following statistics were used to correlate scores obtained from the reading-aloud task with those from the comprehension quiz and scores from achievement tests of an English reading course:

(a) Descriptive statistics: mean, standard deviation
(b) Independent Samples t-test
(c) Pearson product-moment correlations

4. Results and Discussion
The first analysis was conducted to compare the students’ average scores in the use of incorrect syntactic pauses against the average scores of their overall reading ability and the comprehension quiz.

Table 1: Incorrect Pausing, Reading Ability, and Comprehension Quiz

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Maximum Score</th>
<th>Minimum Score</th>
<th>Mean</th>
<th>Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incorrect Pausing</td>
<td>60</td>
<td>34</td>
<td>6</td>
<td>16.35</td>
<td>7.582</td>
</tr>
<tr>
<td>Reading Ability</td>
<td>60</td>
<td>41</td>
<td>12</td>
<td>25.18</td>
<td>7.931</td>
</tr>
<tr>
<td>Comprehension Quiz</td>
<td>60</td>
<td>6</td>
<td>3</td>
<td>4.78</td>
<td>.825</td>
</tr>
</tbody>
</table>

Table 1 presents the students’ maximum and minimum scores, mean values and standard deviation. The results show that the students’ incorrect pause positions ranged from 6 to 34, averaging 16.35. Scores of the reading achievement test, out of the total of 50, ranged between 12 and 41, with a mean of 25.18. The broad range of scores among the 60 students and the high standard deviations (i.e. 7.582 and 7.931) suggest that the students were assumed to be a heterogeneous group, having substantially varied abilities in performing the two tasks. Comparatively, scores on the comprehension quiz ranged between 3 and 6, and indicated a standard deviation of only .825, suggesting a narrower range of varied ability among the students.

As regarding the primary question for this study was to examine whether a relationship existed between the students’ ability to use syntactic pauses when reading aloud and their overall reading ability, Pearson product-moment correlations were therefore conducted to determine the strength of the relationship between the two abilities. Results in Table 2 indicate a moderate and statistically-significant correlation (r. = -.472, p < 0.05). The negative correlation was expected because the scores on the reading ability were positive, that is, high scores indicated high ability; whereas the scores on syntactic pausing reflected a number of incorrect pauses, and therefore was negative (i.e. high scores indicated a higher number of pause misplacement). The significant, although moderate, correlation between reading ability and the use of syntactic pausing, then, shows that the two abilities were related to a certain extent.

Table 2: Correlations between Incorrect Pausing, Reading Ability, and Comprehension Quiz

<table>
<thead>
<tr>
<th></th>
<th>Incorrect Pausing</th>
<th>Reading Ability</th>
<th>Comprehension Quiz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incorrect Pausing</td>
<td>r.</td>
<td>-.472*</td>
<td>-.299*</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000</td>
<td></td>
<td>.020</td>
</tr>
<tr>
<td>N</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Reading Ability</td>
<td>r.</td>
<td>-.472*</td>
<td>1</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000</td>
<td></td>
<td>.098</td>
</tr>
<tr>
<td>N</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Comprehension Quiz</td>
<td>r.</td>
<td>-.299*</td>
<td>.216</td>
</tr>
<tr>
<td>Sig.</td>
<td>.020</td>
<td></td>
<td>.098</td>
</tr>
<tr>
<td>N</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

*p < 0.05
In the investigation of syntactic pausing and the comprehension quiz scores, the correlation analysis indicated a relatively low, but significant, correlation of \( r = -0.299, p < 0.05 \). This shows that the ability to understand the text while reading it out loud was, to some extent, related to the ability to use syntactic pauses. However, it seems premature to assume the results are conclusive since the read-aloud passage is quite short and there are only six items in the comprehension quiz, whereas the achievement test, which represents reading ability, contains a greater number of test items and several genres of text types. One may recognize that the correlation did not exist between reading ability and the comprehension quiz; these two abilities have no significant relationship with each other \( r = 0.216, p > 0.05 \).

5. Conclusion and Implications of the Study

The main objective of this small-scale study was to examine the relationship between reading comprehension ability and the ability to read aloud in syntactically-related chunks. The results were consistent with Fujinaga’s (2003) study indicating that a significant correlation existed between the two abilities. However, due to the fact that one may recognize the substantially broad range of scores in the performance of the two tasks, as shown by the high values of the standard deviation, it may be premature to conclude that higher EFL reading proficiencies are dependent on higher abilities to use syntactic pauses. More reliable results would call for a larger scale examination to investigate participants of more homogeneous groups at certain English proficiency levels. In terms of pausing and comprehension while reading aloud, the result indicates a significant but quite low relationship \( r = -0.299, p < 0.05 \). This is quite correct sense groups does not always facilitate text comprehension while reading aloud.

It should be noted that although the correlation between pausing and comprehension may still be inconclusive, the findings do not suggest that reading aloud poses a negative impact on comprehension. In fact, since syntactic pauses are not always symbolized by the graphetic (writing) system of English, correct syntactic pausing could provide evidence that the reader, to some extent, understands what is being read. One obvious benefit is that oral-reading can produce improvement in pronunciation and oral fluency for learners. As Kelly (2004) suggests, reading aloud combines silent reading skills with listening and speaking activities. It helps bridge the gap between using the eyes in silent reading and the ears in hearing sound dimensions, which is critical to listening and speaking. Thus, in a reading class, students should not only be taught strategies for reading, which include comprehending, summarizing, and inferring, they should also be taught the strategy of mouthing the words as they read. This will help them emphasize the link between reading in correct chunks and speaking with appropriate pauses. Reading fluently can then be transferred to speaking fluently. Taking into account the link between perceptive domain of language processing (i.e. reading) and productive domain (i.e. speaking), it can provide an insight into second/foreign language learning and teaching. Additionally, reading-aloud activities in class can enable both the teacher and the students themselves to identify pronunciation problems in spoken English. It appears that the advantages sufficiently outweigh the drawbacks of reading-aloud being incorporated into EFL lessons in order to enable students to read fluently as well as speak intelligible English.

6. Recommendations for Future Research

As the results of this study suggest, a few areas have emerged for further research. One area would call for research on the relationship between the students’ reading ability and specific places at which they make incorrect pauses when reading aloud. Examples of incorrect pausing environments are pauses occurring between a subject and the verb, between a verb and its direct
object, between the preposition and its object, and between an adjective and the noun, among several others. Knowing these error environments will allow teachers of English to explicitly teach their students to chunk language appropriately when reading a passage.

Another area of further research would call for a larger scale examination of the relationship between oral versus silent reading and comprehension, as well as retention, among Thai EFL learners of varying proficiency levels. As has been suggested from past research, different genres of text and other textual factors may affect reading comprehension performance. Future research may include different types of text so as to investigate which text types will benefit from silent reading and which will benefit from oral reading.

References


Appendix: The Read-Aloud Passage and Comprehension Quiz

A. Read the following story aloud and record your speech.

The Oldest Living Thing

There is a tree growing in America that is over three and a half thousand years old. People believe that it must be the oldest living thing! It even has a name – ‘General Sherman.’ The tree is about eighty meters tall. At the bottom of its trunk it is five meters around. This great tree stands in a park. It is a giant redwood tree.

Redwoods are magnificent forest trees that are among the world’s tallest. They grow along the west coast on the sides of mountains that face the Pacific Ocean. The bark of a redwood tree is very thick – about thirty centimeters – and it protects the trees whenever there are forest fires. Many houses in America are built of redwood. The wood is easy to cut, lasts for many years and is not attacked by pests. Some Australian companies buy redwood to make outdoor furniture.

B. Answer the following questions according the passage you have just read.

1. The oldest living thing is _________________.
   a. a whale   c. an elephant
   b. a giant tree  d. a horse

2. ‘General Sherman’ grows _________________.
   a. in Australia   c. in America
   b. in Africa      d. in South America

3. In Australia some people make ________________ from redwood.
   a. outdoor furniture   c. timber
   b. floorboard        d. carts

4. In America redwoods are used for building _________________.
   a. trunks    c. coaches
   b. houses    d. boats

5. ________________ protects the redwood from being burnt.
   a. the bark    c. the trunk
   b. a forest fire  d. the pest

6. Redwoods grow near _________________.
   a. the Atlantic Ocean   c. a mountain road
   b. the Pacific Ocean    d. a park