

***Effectiveness of the Product-Plus-Process-Based  
Academic English Reading Curriculum: A Continued Study  
to Confirm the Results of the Pilot Study***  
**สัมฤทธิ์ผลของหลักสูตรการอ่านภาษาอังกฤษเชิงวิชาการแบบประสาน  
กระบวนการและผลผลิต: การศึกษาต่อเนื่องเพื่อยืนยันผลการศึกษานำร่อง**

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**บทคัดย่อ**

การวิจัยครั้งนี้เป็นการยืนยันผลการวิจัยในครั้งก่อนว่าหลักสูตรการสอนอ่านภาษาอังกฤษแบบประสานกระบวนการและผลผลิตมีประสิทธิภาพดีในการสอนนักศึกษาปริญญาโทคณะต่าง ๆ ของสถาบันบัณฑิตพัฒนบริหารศาสตร์ สามารถลดจำนวนชั่วโมงสอนจาก 96 เป็น 48 ชั่วโมง โดยเฉพาะอย่างยิ่งเมื่อใช้ควบคู่กับแบบฝึกหัดที่ให้นักศึกษาเรียนด้วยตนเอง นอกจากนี้ยังยืนยันประสิทธิภาพของแบบทดสอบการอ่านที่มีคำถามคลุมรูปแบบด้วย สิ่งที่พบนอกเหนือจากการวิจัยครั้งก่อน คือ นักศึกษาที่รับเข้าเรียนด้วยวิธีปกติมีคะแนนสอบภาษาอังกฤษสูงกว่านักศึกษาที่รับเข้าศึกษากรณีเกียรตินิยมและกรณีประสบการณ์ในการทำงาน อีกทั้งนักศึกษากรณีปกติมีความพึงพอใจในเอกสารการสอน วิธีการสอน ผู้สอน และหลักสูตรโดยรวมมากกว่าด้วย ประมาณครึ่งหนึ่งของกลุ่มตัวอย่างเสนอว่าควรมีวิชาการอ่านเสริมพื้นฐานภาษาอังกฤษสองระดับวิชาหรือแบ่งนักศึกษาออกเป็นสองกลุ่มตามระดับทักษะภาษาอังกฤษของนักศึกษา ซึ่งผู้วิจัยก็เห็นด้วยจึงได้เสนอแนะเพิ่มเติมว่า เอกสารการสอนของระดับต้นควรปรับเปลี่ยนโดยการแทรกข้อความอธิบายลงในเนื้อหาที่ให้อ่าน (elaboration method) และให้ใช้เอกสารจากตำราหรือบทความจริงในการสอนระดับที่สูงขึ้น

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### Abstract

This experimental research confirms the result of the pilot study that the product-plus-process-based academic reading curriculum is effective in teaching reading skills to graduate students in different departments and can reduce the teaching hours from 96 to 48. It is particularly effective when used along with the self-access approach. The study also confirms the effectiveness of reading tests of mixed question formats. Further, it was found that the students who were admitted through the regular method (those taking the English entrance examination) seemed to performed significantly better than those admitted by the other methods (those with an honors degree and those with certain years of work experience). Besides the former seemed to be more satisfied with the teaching material, the teaching method, the instructor and the overall curriculum. About half suggested that a lower-level reading course be offered to low English proficiency students, or that low and high English proficiency students be taught in separate classes. The researcher agreed to their suggestions and also recommended using reading material modified by the elaboration method for the low level course and authentic material for the other.

### Background of the Study

The problem of teaching academic English reading skills to NIDA students can be attributed to two causal factors. The first factor is that students admitted through different methods by individual departments have different English proficiency levels, but they have to study in the same English reading class. The second factor is time limitation. Students are supposed to complete all the courses within two years. They have to struggle with the courses in their major areas and feel that these courses should receive the major portion of their time and effort. Although they realize the importance of English in their learning and future career, they cannot spend a great deal of time studying it. For these reasons, an effective academic English reading course with a

smaller number of class hours than 6 hours a week per one semester, along with an effective teaching method, should be designed to serve their needs for reading ability improvement.

As an English instructor at NIDA for almost 20 years, the researcher has noticed that the reading materials for the required reading course at NIDA are arranged by unit length. That is, the materials start at the sentence level and progress to the single-and multi-paragraph levels. The materials end with reading a textbook chapter or a journal article, as if there were a hierarchy of reading skills. That is why it takes many hours to teach sub-skills in each unit before moving on to a larger unit. Some students even complain that they have to wait half a semester before the time comes for them to learn

reading strategies necessary for reading long passages, which they have to read in real life.

From the review of related literature, many ESL researchers have stated that there is no hierarchy of reading skills, and can therefore be taught in any order. Also, the currently popular reading theory called the "schema theory" emphasizes the reader's schemata or background knowledge of the text being read. It focuses on reading long selections rather than single sentences. The reading approach based in this theory divides reading activities into three stages: pre-reading, reading and post-reading. The researcher thinks that a combination of the traditional approach (product-oriented) and the currently popular approach (process-oriented) would be beneficial for acquiring academic reading skills. Therefore, in the previous experiment the researcher tried to find out whether the product-plus-process-based academic English reading approach was more effective than the traditional approach and whether the former could reduce the class hours by half (reduction from 96 hours to 48 hours) (Chalaysap, 1998). She found that the proposed method of teaching reading was as effective as the traditional approach, which used unit length in arranging reading materials and translation as a teaching method. The total class hours for the experimented teaching method were only 48 while those for the latter were 96. However, because of the difficulty of some teaching points, she recommended 60 hours for teaching academic English reading skills to NIDA students instead of 48 if all the teaching points were to be kept.

In the pilot study, the materials for the new method or approach started with multi-paragraphs, although the teaching points for sentence reading (taught for half

a semester) were arranged in the same sequence as in the control group. In the experimental group, multi-paragraph reading skills, along with general reading skills were practiced from the beginning, though not obviously taught in details, and were emphasized in the second half of the semester. In the first half of the semester, apart from teaching one passage per teaching point, one sentence-level exercise for each point was done in class; others were assigned to the students for self-study and the instructor graded the students' homework assignments. The students in the experimental group said that they liked the materials because they were authentic and more interesting than reading individual sentences. The selections even became more understandable when the instructor made them bring their background knowledge of the story to use in reading, or when the instructor provided them with some background about the story read.

However, the subjects of the earlier study were still limited to the students in the Department of Development Economics and Department of Social Development, so the results might not be generalizable to students in other departments. To confirm the results of this pilot study, the researcher received another grant from the NIDA Research Committee to conduct a continued study using students in other departments as the sample.

### Objectives of the Study

1. To confirm the results of the earlier study. They are

- 1.1 the product-plus-process-based approach is effective in teaching academic reading and can be used effectively

with graduate students in other departments at NIDA as well,

1.2 a test with mixed question formats can measure reading achievement as effectively as a multiple choice test,

1.3 acquisition of one reading skill can help facilitate acquisition of other reading skills

2. To find out what background variables influence the students' reading test scores

3. To compare the attitudes of the students with different backgrounds toward instructional reading materials, the teaching method, the number of class hours for each teaching point, the instructor, the tests, and the overall curriculum.

**Limitations of Study.** Unfortunately, replication of the pilot research study could not be made because of the unexpected policy change of the Language Center. That is, the Language Center decided to reduce the class hours to 48 and use the so-called "self-access" materials or exercises for students from all the departments. The students are required to practice and check the answers by themselves. These exercises were just what instructors in all the LC 400 courses did not want to use in class. They were pooled together for self-study purpose. Nonetheless, the unit length arrangement and the long-practiced teaching method have remained as usual, except that the materials for each teaching unit were reduced in quantity. Unavoidably, the researcher had to use the self-access material of the Language Center because the students were required to take a big test on these materials after the final examination. She did not want to overload the students with her own self-study materials.

## Methodology

**Sample** Because of the limitations as mentioned above, the researcher conducted a second experimental study in a different way. In this research, there were only experimental groups--two of them, in fact. One group consisted of half of the Public Administration (PA) students enrolling in LC 410 (36 students), and the other group consisted of all Human Resource Development (HRD) students enrolling in LC 460 (46 students). The PA students were the first 36 students who enrolled in the course and were assigned to Group 1 by the Registration Office; those who enrolled after them were placed into Group 2. The second group was not included in the study. Both LC 410 and LC 460 were required reading courses for those who did not get an exemption.

The two groups were taught separately for 3 hours a week (or 48 hours per semester) in the first semester of the academic year 1999, using the same method and material arrangement as in the experimental group in the pilot study.

## Data collection

### Instrumentation

**1. Instructional reading materials.** The materials taught in both groups were of different reading selections, although they contained the same teaching points in the same sequence. The materials started with multi-paragraphs and ended with textbook chapters or journal articles. They were carefully selected on the basis of the teaching point.

The product-plus-process-based reading approach was employed in both groups. In the pre-reading stage, the

teaching point being focused on the selected passage was taught, followed by a sentence-level exercise concerning that point. Then the students were asked whether they had known anything about the passage in order to have them choose the right schemata for reading. If they knew very little, the instructor would give them some information about the passage so that they would have some background knowledge about the story. In the reading stage, emphasis was on the reading process as well as on the product, or comprehension. Translation was also used to increase the students' comprehension. In the postreading stage, the students did a variety of exercises related to the reading passage. Besides questions on the teaching point, the exercises at this stage covered various types of questions on reading sub-skills.

**2. Proficiency tests** Two proficiency tests were constructed and pre-tested. The correlation coefficient between the two tests was .8533 at the 0.001 level. The tests were parallel in form and one was used as a pre-test and the other as a post-test to collect the data. Each test was composed of three parts: contextual clues to meaning (20 items), sentence interpretation (15 items) and reading comprehension (4 passages; 33 items). These items were selected from past English reading entrance examinations administered 7-15 years ago and had already undergone item analysis after each entrance examination was completed. The total raw score was 68 and the administration time was 3 hours.

**3. Achievement tests** The achievement tests consisted of a mid-term examination and a final examination constructed separately for each group. The mid-term examination, which covered only sentence-

level tests, included (1) dictionary usage, (2) contextual clues to meaning, (3) sentence interpretation, (4) sentence analysis, and (5) sentence comprehension. Each section or part had different question formats. The raw scores were 115 in total and the administration time was 3 hours. The final examination consisted of two reading selections--one 1-page multi-paragraph passage and one textbook or journal article of 5-6 pages. The questions were divided into two parts: preview and details. This examination had a variety of question formats. The administration time was 3 hours. The number of questions was not the same for both groups, depending on the content of the reading selection.

**4. Questionnaires** Three questionnaires were employed in the study. The first one, which sought the subjects' personal background, was distributed at the beginning of the semester. The other two were evaluation forms to measure the students' attitude--one distributed after the mid-term examination (Alpha = .93) and the other at the end of course (Alpha = .89). The mid-term evaluation form was composed of four main topics: quality of instructional materials, appropriateness of the teaching method, appropriateness of the number of class hours for each teaching point, and the instructor. The other form consisted of five main topics: quality of instructional materials, appropriateness of the teaching method, appropriateness of the number of class hours for each teaching point, difficulty of the mid-term and the final examinations, and the overall quality of the curriculum.

**5. Self-access reading materials** The research employed the same self-access reading material as was used by

students in all other departments in conformity with the Language Center's new policy. So she had no control over the material. Only some recommendations on this matter were provided in the last chapter of the research report.

### Results and Discussion

Most of the subjects were female students (56 persons or 68.29%) and were 21-25 years old (55 persons or 67.07%). About three-quarters graduated from public universities about 1-5 years ago and had work experience before entering NIDA (47 persons or 54.32%). The majority were Bangkok residents (47 persons or 57.32%). All of the PA students entered NIDA through the regular method, while only seven HRD students (15.22%) entered NIDA this way. Twenty-four HRD students (52.17%) were admitted to study at NIDA because they held an honors degree in their fields, whereas the other fifteen (36.61%) were selected because of their work experience. The majority took at least 3-4 English courses during their undergraduate years (37 persons or 45.12%); however, many had never attended any training course after graduation (59 persons or 71.95%).

#### Findings about the pre-test and the post-test

The reliability of the pretest and that of the post-test were .87 and .86, respectively. When the mean scores of both tests were compared to find out the reading skill improvement of both sample groups, they were found to be significantly different at the .001 level for the PA group and at the .01 for the HRD group. Therefore, the hypothesis that the mean score of the post-test was higher than that

of the pre-test was accepted. Also, there was a high correlation between both tests. This means that the students with high scores on the pre-test tended to get high scores on the post-test and that the students in both groups obviously improved their reading skills through the product-plus-process-based reading approach, although the total class hours were only 48.

Noticeably, when the mean score for each part of the pre-test and of the post-test was considered, no significant difference was found between the scores of Part II (sentence interpretation) of the two tests. This indicated that the students experienced difficulty mastering this reading skill so they could not do well in the post-test, even after they had practiced such a skill in class. This finding was the same as that in the previous study.

When 30 pairs of PA students and HRD students who were matched on the basis of their pre-test scores were compared, no significant difference was found between the two groups in both the pre-test and the post-test. This showed that the students' English reading proficiency was obviously improved in both departments, which proved again that the experimented teaching approach worked well for students in any field of study. The finding confirmed the result of the earlier study of the effectiveness of the proposed teaching method.

#### Relationships between the scores of the pre-test, post-test, mid-term exam, and final exam

It was found that all the test were significantly related to each other at the .001 level. So the hypothesis that there was a relationship between the scores of the pre-test, post-test, mid-term exam and

final exam in both the PA group and the HRD group was accepted. The finding confirmed the result of the earlier study that the test with a mix of question formats (as used in the mid-term and the final exams) could measure the reading achievement as effectively as the multiple choice test (as used in the pre-test and the post-test).

Moreover, when the relationships between the scores of the individual parts of the post-test, those of the individual parts of the mid-term exam and the whole final exam were considered, it was found that only the dictionary usage had no relationship with Part I and Part II of the post-test, but had a "low" relationship with Part III, while other parts of the mid-term examination had a positive relationship with the three parts of the post-test. This indicated that unlike other reading skills, the dictionary skill did not facilitate the acquisition of other reading skills. However, as a whole, a significant relationship was found among the three tests, which supported the hypothesis that there was a relationship among the scores of individual parts of the post-test, those of the individual parts of the mid-term examination and the whole final examination in both the PA and the HRD groups. This showed that one reading skill facilitated the learning of another reading skill.

#### **Influence of the background variables on the reading achievement**

It was found that age, number of years after graduation before attending the MA program at NIDA, and number of English courses taken in the undergraduate program had no relationship with the students' reading scores in all the tests. Significant difference was found in the PA

group, but not in the HRD group, when type of university (public VS private) was considered. That is, those graduating from a public university performed better than their counterparts.

Next, the admission method was found to have a significant relationship with the reading scores in the HRD group in which three methods of admission were used to select the students. That is, students admitted through the regular method performed better than those admitted through the other two methods. However, this finding was still not generalizable, since the number of those admitted through the regular method was very small (only 7 students).

Other variables, i.e., work experience, attending English training courses, and hometown did not have any effect on the reading scores. In the study, although the female students performed better than the male counterparts, it could not be concluded that sex had significant influence over the reading skill development because the researcher did not control this extraneous variable from the beginning and also because the number of female students far exceeded that of male students.

#### **Students' attitude toward the experimented reading course**

As a whole the PA students and the HRD students were moderately satisfied with the reading course. The PA students were found to have a more positive attitude toward it than the HRD students in all the topics in the evaluation forms. Both groups were highly satisfied with the quality of the materials in the first half of the semester. However, they were only moderately satisfied with the teaching method in the first half and with that of the



second half at a low level. This might be due to the fact that the teaching points of the second half (detecting topic sentences, main ideas, purposes, relationships between ideas, movement of thought, and details) were rather difficult and the students had to read authentic texts of at least 6-7 pages (a chapter or a journal article). If the reading selection was too long, too difficult, not interesting to them, they may not have enjoyed reading it.

Further, the PA students were moderately satisfied with the number of class hours for each teaching point in both the first and the second half of the semester. On the contrary, the HRD students were moderately satisfied with that in the first half but were slightly satisfied with that of the second half.

With regard to the instructor, both groups were moderately satisfied with the instructor.

Next, comparison was made between the high English proficiency students (29 students with the high scores on the pre-test) and the low proficiency students (27 students with the lowest scores on the pre-test). No significant difference was found only about the instructor between the two groups. While the former group was found to be more satisfied with the quality of the materials, the teaching method, and the number of class hours for each teaching point in the first half of the semester than the latter group. But from the second evaluation form, a significant difference was found between the two groups in the teaching method and the number of class hours for each teaching point, although there was no significant difference in their opinion or attitude about the quality of materials, tests, and the overall curriculum.

This implied that the product-plus-process-based reading approach and the number of class hours were less suitable for low proficiency students.

#### **Influence of the background variables on the students' attitude**

The students were found to have no significant difference in their attitude when gender and type of university attended in the under-graduate program were considered. Those with work experience were found to have a different attitude to that of their counterparts regarding the number of class hours for each teaching point in the first half of the semester. That is, those with work experience needed more time to brush up their English, since they graduated several years ago before they pursued their Master's degree. Also, those who had attended some English training courses seemed to be less satisfied with the instructor than those who had never attended any. This might be due to the fact that the curriculum and the teaching method used in the experiment were unfamiliar to the students. Their learning habits may have been set with the traditional method of teaching reading, making it difficult for them to adjust themselves to a new method. This, in turn, perhaps affected their attitude toward the instructor.

Noticeably, the students admitted by the regular method were found to be more satisfied with all the topics evaluated than those admitted by the other two methods, except the teaching materials for the second half of the semester, which contained difficult teaching points and very long, complicated reading selections. Those admitted through the regular method seemed to have higher English proficiency,



thus feeling more at ease with the curriculum than the other students.

#### **Students' responses to the open-ended questions**

Approximately 88.89% of the PA students said they were ready to take the required reading course, whereas nearly half of the HRD students (45.85%) said they did not feel quite ready for it because they thought that they had a poor English background.

In addition, most of the students in both groups found the number of class hours for each teaching point in the first half of the semester moderately appropriate, but most HRD students considered the number of class hours in the second half inadequate. It should also be noted that only 69.44% of the PA students found the overall class hours appropriate while 30.56% thought they still needed more class hours. Accordingly, when placing students into groups, their background should be taken into account, particularly their English proficiency level.

With regard to course material, the students suggested that it be bound into a book and distributed to them at the beginning of the semester. Some students even wanted the handouts written in Thai. This indicated that their English proficiency was so low that they could hardly read the explanation in English. Also, they wanted explanations for the answers to self-access materials, apart from the key to answers.

The majority of the students, or 69.51%, experienced stress in their academic reading skill development course. Nearly half, or 48.78%, suggested that there be a lower-level reading course to prepare them for the current required course.

Examples of what they considered satisfactory was that they could read academic texts better, know some reading strategies and learn how to translate English texts more efficiently.

#### **Recommendations**

The researcher made the following recommendations:

1. **Implications for teaching and learning.** Since the product-plus-process-based academic reading curriculum was found to be more effective in teaching reading skills to graduate students in a shorter period of time than before, it is recommended for the required reading course at NIDA. It is particularly appropriate for those who enter NIDA through the regular admission method. Also, all students who are admitted through the other methods should take an English reading proficiency test so that they can be placed into the right class. In fact, there should not be only one English reading course, but there should be two: a higher level course for higher English proficiency students and a lower level course for lower English proficiency students. The latter should take two courses (i.e., the lower level course and the higher level course). Those who fail the low level course should enroll again in the same course, while those who fail the high level course should take a remedial course.

In fact, the product-plus-process based approach can be used for both levels, but the texts for the low level course should be adapted by providing more clues or modifications (elaborate texts as suggested by Long (1996)). Also, more general vocabulary practice and grammar should be included at this level. In the high level course, authentic texts and the content-based curriculum should be utilized. The main skill in this curriculum

is reading but other language skills should be included to support reading.

The self-access materials for each teaching point should be arranged in order of difficulty. Explanation of the self-access exercises might be in Thai, while the handouts must be in English.

**2. Implications for language testing.** As it was found that a reading test with a variety of question formats was as effective as a multiple choice test, the former is recommended for academic reading measurement. The recommended reading test is easier to prepare and, in real life, no author creates wrong choices or distractors to deceive the reader. Also, in testing the comprehension of a long text, division of questions into parts or sections on the basis of format makes students waste a lot of time locating the answers.

**3. Implications for further research.** As reading skills still have a priority in academic English, and as many

researchers are now turning their attention to content-based ESL courses, further research on academic English reading should focus on the role of this skill in the content-based ESL course, in which other language skills can be used to help support the reading skill development.

An experiment should be conducted to see if a content-based course, especially the adjunct model, in which there is close cooperation between the English instructor and the mainstream instructor, would be more effective than the traditional English course taught alone by the English language instructor at any language service unit. Particularly, teaching academic English for students in other fields of study than English or linguistics, should not let be in the hand of the English, Communication, or Linguistics Department, in which degree courses are offered, as such a service is not its primary concern but a secondary job.

## Reference

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