

The Impact of ESP Materials on Medical Students' Reading Proficiency

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ABSTRACT

This study investigates teaching materials as one of the most controversial issues in language studies. The questions this study tried to answer were: whether using teacher-made materials resulted in Iranian medical students' higher performance in a reading comprehension test; whether using original (international) materials resulted in Iranian medical students' lower performance in a reading comprehension test; whether using domestic (SAMT) materials resulted in any significant performance in a reading comprehension test taken by Iranian medical students and finally, whether the means of Iranian medical students' reading comprehension score obtained as a result of the tests based on the three material sorts were significantly different. To answer these questions, 45 junior students of medical science from the Islamic Azad University at Tonekabon (IRAN) were randomly selected and participated in the experiment. They were randomly assigned to three groups and were taught Medical English through three different teaching materials. Then, they participated in the same reading comprehension posttest and the data of the study were analyzed through the one-way ANOVA. The results obtained indicated that the participants' reading comprehension scores were higher in the group taught with teacher-made materials; also, there was a significant difference between the means of the three groups.

Key Words:

Medical Students, Teaching Materials, Domestic Materials, SAMT Materials, International Materials, Reading Comprehension

Introduction

English for Specific Purposes (ESP) is a need- based concept to determine which language skills should be profitably developed for academic and professional success of students. It takes into account certain basic questions like: ‘who the learners are, what their linguistic background or level of competence is, what their view to language learning is, what their purpose and expectations are what particular skill they will need in their actual on- the- job situation etc.’

ESP is significant in that the ESP approach provides opportunities to the learners to acquire English naturally, by working with language in a context that they comprehend and find interesting through which English as a medium of instruction is integrated into a subject matter area important to the learners, enabling them to use the English they know to learn even more English for all sorts of transactions. It is assumed that the ESP learners already have the basics of the English language and are learning the language in order to communicate a set of professional skills and to perform particular job- related functions.

The teaching of English for Specific Purposes has generally been seen as a separate activity within English Language Teaching (ELT), and ESP research as an identifiable component of applied linguistic research. The main concerns of ESP have always been, and remain, with needs analysis, text analysis, and preparing learners to communicate effectively in the tasks prescribed by their study or work situation. It is often said that ESP lacks an underlying theory, Dudley-Evans and ST John 1998 believe that a theory of ESP could be outlined based on either the specific nature of the texts that learners require knowledge of, or on the basis of the needs-related nature of the teaching. It is, however, interesting and significant that so much of the writing has concentrated on the procedures of ESP and on relating course design to learners' specific needs rather than on theoretical matters.

What follows will be the statement of the problem, the rationale behind Iranian medical students' reading proficiency to become the subject of this study, research hypotheses and questions, theoretical and pedagogical significance of the study, and definition of key terms. Finally, there should be a summary of the whole chapter in order to have a review of the components of the chapter.

Background

Textbooks and Textbook Evaluation

According to Ansary and Babaii (2002), it is ironical that those teachers who rely most heavily on the textbooks are the ones least qualified to interpret its intentions or evaluate its content and method (Williams, 1983, p.251). They believe that any answer to the question depends on the teachers' own teaching style, the resources available to them, the accepted standards of teaching in every language school, etc. However, there seems to exist in three options open to teachers as regards the use or nonuse of a particular textbook in a language

classroom: teachers' need of a textbook, teachers' lack of need to a textbook and teachers' supplemented materials for their selected textbook. Accordingly, No textbook is perfect, thus, teachers should have the option of assigning supplementary materials based on their own specific needs in their own specific teaching situation. They argue that the rationale for using a textbook is:

- a) a textbook is a framework which regulates and times the programs,
- b) in the eyes of learners, no textbook means no purpose,
- c) without a textbook, learners think their learning is not taken seriously,
- d) in many situations, a textbook can serve as a syllabus,
- e) a textbook provides ready-made teaching texts and learning tasks,
- f) a textbook is a cheap way of providing learning materials,
- g) a learner without a textbook is out of focus and teacher-dependent, and perhaps most important of all,
- h) for novice teachers a textbook means security, guidance, and support.

In general, EFL/ESL textbooks have brought with them a range of reactions. Responses often fluctuate between these two extremes. One position is that they are valid, useful, and labor-saving tools. The other position holds that they are 'masses of rubbish skillfully marketed' (Brumfit, 1980: 30). During the last three decades, these reactions have essentially been based on ad hoc textbook evaluation checklists. And the shaky theoretical basis of such checklists and the subjectivity of judgements have often been a source of disappointment.

Checklist Approach to Textbook Evaluation

Ansary and Babaii (2002) assert in their article that any textbook should be used judiciously, since it cannot cater equally to the requirements of every classroom setting (Williams, 1983, p.251). As teachers, many of us have had the responsibility of evaluating textbooks. Often, we have not been confident about what to base our judgements on, how to qualify our decisions, and how to report the results of our assessment. It seems to us that to date textbook selection has been made in haste and with a lack of systematically applied criteria.

Teachers, students, and administrators are all consumers of textbooks. All these groups, of course, may have conflicting views about what a good/standard textbook is. However, the question is where they can turn to for reliable advice on how to make an informed decision and select a suitable textbook. The literature on textbook selection and/or textbook evaluation procedure is vast. Various scholars have suggested different ways to help teachers become more systematic and objective in their approach (cf. Chastain, 1971; Tucker, 1975; Candlin & Breen, 1979; Daoud & Celce-Murcia, 1979; Williams, 1983; Hutchinson and Waters, 1987; Sheldon, 1988; Skierso, 1991; Ur, 1996; Littlejohn, 1996; to name but a few). They have often offered

checklists based on supposedly generalizable criteria. These sometimes detailed check-sheets use a variety of methods to assess how well a particular textbook under scrutiny measures up.

To evaluate the merits or demerits of such checklist approaches to the textbook evaluation process and for comparison purposes, two samples are offered here: Allen Tucker's 1975 system for evaluating beginning EFL/ESL textbooks and, after a gap of 21 years, Penny Ur's 1996 criteria for EFL/ESL coursebook assessment.

Tucker (1975, pp. 355-360) introduces a system which has three components:

- a set of criteria claimed to be "consistent with the basic linguistic, psychological, and pedagogical principles" (p. 355),
- a rating scheme which provides a method for judging the comparative weightings of a textbook's merits, and
- a chart/graph which provides a visual comparison between the evaluator's opinion of the book and a hypothetical ideal model, hence facilitating a quick and easy display of the evaluator's judgment.

Two types of criteria are introduced in this scheme: internal criteria which are language-related and external criteria which give a broader view of the book. Under the pronunciation criterion, the presentation of pronunciation requires attention to (1) completeness of presentation which refers to the coverage of sounds and supra-segmentals, (2) appropriateness of presentation which concerns whether or not students are from a single language background, whether or not students are kids or adults, and all this affecting the type of presentation, and (3) adequacy of practices which deals with both the quality and quantity of practice. By quality what is meant is practice in a context, i.e., sounds practiced in words, words in sentences, etc.

The Study

Statement of the Problem

Choosing a course textbook is a daunting, sometimes overwhelming prospect for both program administrators and teachers. Nevertheless, it is a prospect that must be respected as it has significant impact on the ability of students to meet their language learning objectives. As is known, language proficiency refers to the overall language ability presented by a person in a real situation. One of the significant aspects of language proficiency is the reading comprehension skill by which learners will be able to interpret and understand the whole text. Regarding the curriculum represented by the Ministry of Higher education in Iran for English Reading courses, students of Medicine are supposed to get the main idea of the text, to discuss the main idea, to paraphrase the text, to find the meaning of new vocabulary items through the contextual clues, to do language focus, and to summarize the text. Instructional materials available do not seem to meet the objectives represented by the ministry. The purpose of the study here is to investigate

the compatibility of the instructional materials currently used in Iranian reading comprehension courses with the aforementioned objectives.

The Research Questions of the Study

The research questions of the current study, based on the problems stated, are as follows:

RQ1: Does using teacher-made materials result in Iranian medical students' higher performance in a reading comprehension test?

RQ2: Does using original (international) materials result in Iranian medical students' lower performance in a reading comprehension test?

RQ3: Does using domestic (SAMT) materials result in any significant performance in a reading comprehension test taken by Iranian medical students?

RQ4: Are the means of Iranian medical students' reading comprehension score, obtained as a result of the tests based on the three material sorts, significantly different.

The Hypotheses of the Study

The nature of the questions asked in this study as well as the type of problem that was intended to be investigated caused the four hypotheses of the study to be formed non-directionally (Null). The rationale behind the formation of such null hypotheses was that the result could not be pre-determined or predicted due to the sort of the treatment done before the posttest of the study. Thus, no specific direction was to be assigned to the hypotheses of the study and the researcher had to be waiting for the results. The null hypotheses of the study are as follows:

H0₁: Using teacher-made materials does not result in Iranian medical students' higher performance in a reading comprehension test.

H0₂: Using original (international) materials does not result in Iranian medical students' lower performance in a reading comprehension test?

H0₃: Using domestic (SAMT) materials does not result in any significant performance in a reading comprehension test taken by Iranian medical students.

H₁: The means of Iranian medical students' reading comprehension score, obtained as a result of the tests based on the three material sorts, are significantly different.

Theoretical/pedagogical significance

Theoretically, the result of this study will be an innovation in material design for the curriculum designers in Iran to take into account which of the text materials will be more beneficial to meet the objectives represented for students of medicine in their Reading Course.

Pedagogically, it will be significant in three areas. First, it will encourage teachers to adopt an appropriate text for their students. Second, the result of the study will help the test makers to provide suitable tests to be consistent with the medical students' instructional needs. Third, it will help the curriculum designers to plan an instructional program as appropriate as possible for teaching English in general, and proving Reading Course in specific for students of medicine.

Methodology

Subjects

The subjects of the study consisted of 45 senior medical students aged between 26 and 32 years. These participants were randomly selected from among a 150 population of medical students in the Department of Medical Science at the Islamic Azad University, Tonekabon. They were selected via a proficiency test of homogeneity consisting of grammar and reading comprehension tests (See section 3.4). The participants were from both sexes-male and female-thus, there was no control of the participants' sex variable in the study. The rationale behind such a selection lied in the fact that the study did not intend to include any moderator variable between the independent and the dependent variables of the study. The purpose was to exclude the possible variable of being bias toward the result of the study which was assumed to be the same for both sexes.

Materials

The materials of the study contained three parts. Part one of the material was the test of homogeneity, part two contained the materials for the treatment of the study and part three covered the posttest used in the study as explained below:

Test of Homogeneity of the Study

The homogeneity test of the study was a paper-and-pencil test. This consisted of 20 multiple-choice items on grammatical points selected from the OPT (the Oxford Placement Test) as well as a test of reading comprehension including two OPT reading passages with five multiple-choice or False-True items for each. The OPT test was selected for this study since it was reliable and valid enough ($R=0.73$, calculated by the KR-21 formula).

Materials for the Treatment of the Study

The rationale behind treating the participant groups of the study was that the difference or lack of difference among the three groups was assumed to be investigated. Thus, the subjects had to be treated with three different materials whose effects would depict whether or not any significant difference existed among the means of the three groups. Accordingly, Group1 of the study was treated with a teacher-made material of medical English. The teacher-made material contained reading extracts on medical common issues with a focus on medical terminology, grammatical points and translation into Persian. Group2 of the study was treated with a SAMT

Material for medical English. SAMT is an Iranian organization which publishes textbooks for various fields of study. The books are well-formed in style and format and contain word study, reading passages and exercise sections on medical issues. Finally, Group3 of the study was assigned to a treatment with an original material for medical English. 'Medical Terminology' by Barbara Johnson was selected for this part of the treatment since it was the most commonly-used original textbook that was referred to in Iranian medical education at the university level. The book was characterized by passages, terminologies, grammar and numerous illustrations that helped the trainees promote their understanding of medical English.

The Posttest of the Study

The third material used in the study was the posttest of reading comprehension. This contained a passage on medical issues of about 200 words in length, whose difficulty level was calculated via Edward Fry's Formula of text difficulty, and was indicated to be appropriate for being used in the posttest of the study. There were multiple-choice items after the passage to be answered by the participants. The three participant groups in this study were exposed to the same posttest due to the fact that the researcher's approach was to exclude outsider factors that might affect the result or the treatment of the study.

Procedures

The homogeneity test of the study consisted of two different parts: a grammar test and a reading comprehension test. The participants of the study were asked to tick the correct answer for the 20 items in the grammar test. They were also asked to tick the correct answer for the reading comprehension multiple-choice or False/True items. The time allowed for the grammar test was 15 minutes and 30 minutes for the two reading comprehension passages.

The treatment of the study consisted of teaching to the participant medical students. The three groups of the study were taught with three different materials on medical English. The duration of the treatment of the study was 10 sessions (90 Minutes per each session) for each group. All of the participant groups were taught by the researcher himself. In addition, the researcher was obliged to ask for prior written permission from the university from which the subjects had been selected to be able to conduct the experiments of the study. This was done since the researcher intended to avoid the possibility of being bias in the study whatsoever.

The posttest of the study-the reading comprehension-was administered with an interval of about a week after the last treatment session. The posttest was a paper-and- pencil test with the allowed time of 30 minutes for answering the questions corresponding to the reading passage.

Scoring

Since both the proficiency and the posttest of the study consisted of multiple-choice or False/True questions, the process of scoring was not problematic. The rationale behind such a

facility of scoring lied in the objectivity of multiple-choice tests in general. There was merely one correct answer for each item in the tests of the study; hence, there was no personal judgment or outsider factor that could affect the way the papers were scored.

Data Analysis Procedures

The data collected in this study were analyzed through the SPSS (Statistical Package for Social Science) software. To test the hypotheses of the study, both the descriptive and the inferential methods were used, namely, calculation of means, variances and the standard deviations of the groups as the descriptive analysis of the study and applying the one-way ANOVA as the inferential analysis in this study.

Result and Discussion

The Findings of the Study

The summary of the findings of the current study can be found in Table (4.1) as follows:

Table 4.1: descriptive analysis summary of the three groups of the study

	N	Mean	SD	S. Error
1.00	15	12.4000	1.18322	.32766
2.00	15	14.4000	1.05560	.27255
3.00	15	17.0667	.96115	.24817
Total	45	14.6222	2.19802	.30551

According to Table (4.1), the descriptive analysis of this study indicates that the second group of the study is with a higher mean score among the three. Also, the amount of the standard error is lower with the third group (the Original Material group) that can bring us to significant results.

Table 4.2: The ANOVA Result of the Study

	Sum of Squares	df	Mean Square	F
Between Groups	164.444	2	82.222	71.745
Within Groups	48.133	42	1.146	
Total	212.578	44		

As Table (4.2) indicates, the F value for the groups of this study at the level of significance of 0.05 ($P < 0.05$) is 71.745. Since such an F value is much higher than 1 ($F=71.745 \rightarrow F > 1$), it can be concluded that the difference among the means of the three groups of the study, obtained from a posttest of reading comprehension, is significant enough to show the existence of any effect of the sort of teaching material on the participant medical students' reading ability.

This will be elaborated in the next section that discusses the rejection or the support of the hypotheses of the study.

Hypotheses Analysis

Based on the findings of this study as a result of the inferential statistical analysis, the four hypotheses of the study can now be analyzed to find out whether or not they are compatible with the researchers anticipation of the results. Accordingly, in this section, the hypotheses of the study have been analyzed one by one with reference to the statistical analysis carried out in this study:

H01: Using teacher-made materials does not result in Iranian medical students' higher performance in a reading comprehension test.

The first hypothesis of the study which targeted the relationship between the teacher-made materials and the participants' reading comprehension skill was supported. This can be justified on the basis of the results indicated in table (4.1). There, the standard error for the first group of the study (the teacher-made group) has been .32766. This figure was the highest amount of standard error among the three, thus, conclusions were that teacher-made materials were considered to be problematic enough to be used for a group of Iranian medical students of English language.

H02: Using original (international) materials does not result in Iranian medical students' lower performance in a reading comprehension test.

The second hypothesis of the study which focused on the relationship between the original (international) materials and the participants' reading comprehension skill was rejected. This can be justified on the basis of the results indicated in table (4.1). There, the standard error for the third group of the study (the original group) has been .24817. This figure was the lowest amount of standard error among the three; thus, conclusions were that original materials were considered to be appropriate enough to be used for teaching English to a group of Iranian medical students.

H03: Using domestic (SAMT) materials does not result in any significant performance in a reading comprehension test taken by Iranian medical students.

The third hypothesis of the study which emphasized the relationship between the domestic (SAMT) materials and the participants' reading comprehension skill was supported. The justification can be on the basis of the results indicated in table (4.1). There, the standard error for the second group of the study (the domestic group) has been .27255. This figure was the middle amount of standard error among the three; thus, conclusions were that domestic materials appropriateness was under question to be used for teaching English to a group of Iranian medical students.

H04: The means of Iranian medical students' reading comprehension score, obtained as a result of the tests based on the three material sorts, are significantly different.

The last hypothesis of the study which considered the significance of the difference among the three means of the participant groups of the study was also supported. The justification can be on the basis of the results indicated in table (4.2). There, the F value of the study was indicated to be 71.745. This figure was mathematically of a notable difference with the criteria of 1 ($F = 71.745 > 1$); thus, conclusions were that the difference among the three means of the study had been significant enough. The obtained results demonstrate that teaching English with three different materials to a group of Iranian EFL students of medical science has had different effects of the reading skill of the participant groups of the study.

In conclusion, based on the obtained results of the study, hypotheses 1, 3 and 4 were supported while hypothesis 2 was rejected. In spite of the fact that difference was shown to exist among the three means obtained in the study, however, the support of the hypotheses of the study was based on the amount of the standard error of the means for hypotheses 1, 3 and 4 and the rejection of hypothesis 2 had been on the basis of the F value that was indicated to be significantly higher than 1.

Conclusion

In this study, the impact of the teaching material sort on Iranian medical students of English was investigated. Despite the results reported in the above section, there is still room for further

investigation. As was mentioned, the results demonstrated that using original materials would enhance more efficient reading comprehension in the participant Iranian medical students. However, this does not mean that the study cannot be replicated with other research situations such as more population, or different fields of study. In addition, the effect of other independent variables can be investigated on university students' reading comprehension skill.

Regarding the results of the study, one can come to the point that although teacher-made materials are generally believed to be of more practicality in classroom situation, but they may lead to less proficiency than the materials authored in native English, perhaps, because they may not be rich enough in terms of genre or discourse as compared with non-teacher-made materials. Thus, it is recommended that medical students be preferably taught English using native-authored textbooks or they be taught with teacher-made materials as a supplementary item if the teacher finds out its necessity.

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