EXPLORING THE IMPACT OF TWO DIFFERING BLENDED LEARNING PROCEDURES ON TEACHING ENGLISH FOR SPECIFIC PURPOSES

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Abstract: The paper reports the results of the quasi-experiment conducted in a group of intermediate adult ESL learners, studying international relations at the University of Cardinal Wyszynski in Warsaw in the 2011-2012 academic year. It employed both pre-and posttreatment tests, experimental and control groups, but no random assignment of subjects. Its objective was to compare the impact of two blended learning procedures on teaching English for Specific Purposes. IBM SPPS Statistics 20.0 was employed to conduct the preliminary processing of the collected data and their analysis.

INTRODUCTION

The article presents research findings related to vocabulary acquisition in English for Specific Purposes (ESP). In recent years, after decades of neglect, vocabulary has become central in the process of foreign language acquisition, native or non-native (Laufer 1997; Nation 2001). It is now not only understood that without the extensive use of vocabulary, learners are unable to develop structures indispensable for communication in a given language. It also goes without saying that vocabulary errors are considered to be more disruptive and more likely to hinder real life communication than grammatical errors. Consequently, the priority of lexis over grammar is underlined by many eminent specialists in the area of Foreign Language Teaching (FLT) (Lewis 1993 in Piasecka 2001; Komorowska 2005) since it is generally understood that to be able to produce and recognize sentences, learners require good lexical skills.

The need to develop lexical competences for both general and specific purposes is undisputed nowadays. It seems to arise out of the growing significance of foreign

languages in general, and English as the contemporary *lingua franca* in particular, the expansion of today's world's space, the rising amount of business and social contact and our increasing mobility. The constant changes typical of the contemporary world require appropriate teaching procedures of foreign language lexis. They should be adopted to the specific needs of the target learners, when teaching a foreign language for both general and specific purposes. This is all the more so that vocabulary acquisition is a lengthy process, and lexical competence involves the ability to understand and produce the spoken and/or written word and to understand its meaning. Accordingly, it seems worthwhile exploring the impact of different study conditions on learners' vocabulary expansion and the resultant progress in the area of receptive and productive vocabulary.

1. RESEARCH BACKGROUND

The objective of the quasi-experiment presented here was to explore the impact of two differing blended learning procedures on ESP vocabulary acquisition, and more specifically on the selected aspect of English for Academic Purposes (EAP). The study of languages for specific purposes has had a long and eventful history and goes back, some would say, to the times of the Roman and Greek Empires (Duddley-Evans, St. John 2009). Since the 1960s, ESP has become a significant and innovative activity within the Teaching of English as a Foreign or Second Language (TEFL/TESL) movement (Howatt 1984 in Duddley-Evans, St. John 2009). Much of its early life was dominated by EAP teaching and research carried out in the area, e.g. English for Science and Technology (Swales, 1988 in Duddley-Evans, St. John 2009). The massive expansion of international business observed in recent years has led to an enormous growth in the area of English for Business Purposes (EBP), which is also the largest sector for published materials. Currently, ESP teaching takes place in a series of differing contexts and ESP teaching practitioners often find themselves dealing with content in an occupation or subject of study which they themselves have very little or no prior knowledge of, e.g. English for law studies, English for the health care, English for nursing, English for the hospitality industry, to name but a few (Basturkman 2010). Empirical investigation into the effectiveness of ESP teaching is limited (Duddley-Evans, St. John 2009), and mainly restricted to EAP (Basturkman 2010). To the best of my knowledge, no study explored the impact of two differing blended learning procedures on vocabulary acquisition in EAP.

2. KEY RESEARCH CATEGORIES

The term ***blended learning*** originated in the business world in connection with corporate training (Sharma, Barrett 2007 in Whittaker 2013a) to become employed in tertiary education (MacDonald 2006 in Whittaker 2013a), and finally to appear in language teaching and learning. According to C. Whittaker

(2013a), the term became commonplace in English Language Teaching (ELT) in 2007, with the publication of P. Sharma and B. Barrett's book *Blended Learning*. Its definition, however, poses a few problems. Though practitioners generally agree that this teaching procedure refers to the inclusion of computer technology to provide a combination of online and offline activities and materials in the mix (cf. Whittaker 2013a), they tend to disagree about the percentage of each element in the blend. Thus when conducting a literature review, it becomes apparent that blended learning can mean different things to different people (cf. Whittaker 2013a). Therefore for the purpose of the experiment presented here, I define it as any combination of face-to-face, computer and self-study modes (after Whittaker 2013b). Depending on the group taking part in this quasi-experiment, the lead mode was different. In the control group, the lead mode was face-to-face, whereas in the experimental group it was the computer mode. After the presentation of the core materials and a series of initial exercises in the face-to-face mode, each group continued lexical practice employing its lead mode and self-study mode. The proportions of the blend typical of each group are described in the next section.

English for Academic Purposes (EAP) is – next to English for Occupational Purposes (EOP) – one of two main strands of English for Specific Purposes (ESP) (Dudley-Evans, St. John 2009). It can be further divided according to the field of study, e.g. English for Science and Technology (EST), English for Medical Purposes (EMP), English for Legal Purposes (ELP) or English for International Relations (EIR), etc. EAP training programmes are designed for students and focus on skills required in an English-speaking academic context across core subject areas generally encountered in a university setting.

Such language training programmes can base their material on a number of speech acts or functions (Jordan 2006; Basturkman 2006). They might as well take into consideration the selected skill areas (Jordan 2006), e.g. vocabulary. **Technical vocabulary**, which was the focus of this experiment, is defined as part of a system of subject knowledge of a particular area; as such it can be identified by referring to specialists who have a good knowledge of the subject area (Chung, Nation 2004). Accordingly, as T. Dudley-Evans and M. St. John (2009) phrase it, it is general English words that have a specific meaning in certain disciplines. The teaching of vocabulary in EAP generally follows principles similar to those in English for General Purposes (EGP). Thus it is advisable that individual words be taught in natural contexts. These show how the words function and allow learners to make intelligent guesses of meaning. It is also important to encourage individual learners to employ strategies that work best for them and facilitate cognitive processing. To aid the retrieval of vocabulary items, it is advisable to use situational and semantic sets, metaphors, collocations, corpora and learning language chunks (Dudley-Evans, St. John 2009).

Since learners usually know more words than they use, it is customary to distinguish between **receptive** and **productive vocabulary knowledge**. The category of receptive vocabulary refers to lexical items that are recognized in speech or writing, whereas productive vocabulary includes words that are used to form utterances.

3. RESEARCH HYPOTHESES

The objective of the experiment was to explore the impact of two differing blended learning procedures on EAP. The selected aspect of EAP was defined as the British political system versus the American political system, and their institutions.

The experiment was designed to collect data in the areas of receptive and productive acquisition of technical terminology. IBM SPPS Statistics 20.0 was employed to conduct the preliminary processing of the collected data and their analysis.

Since the data collected in the respondent group did not prove to be normally distributed and the experimental group slightly outnumbered the control group, the Mann-Whitney U Test, a non-parametric equivalent of the Independent T-Test, was employed to analyze the results of vocabulary acquisition from two independent groups with different study conditions (cf. Bedyńska, Cypryańska 2013). In keeping with the assumptions of the test, two hypotheses were formulated. The null hypothesis for the experiment (H_0) states that the score means of the students from the control and experimental groups are equal. The alternative hypothesis (H_1) assumes that the score means of the students from the control and experimental groups are not equal. Accordingly, different study conditions represent the independent variable (in the case of the control group – face-to-face lead mode and for the experimental group – the computer lead mode) and the posttreatment test scores of the students – the dependent variable.

The alpha level (α) was established at 0.01, which is typical of language studies and suggests that only 1 per cent of the results obtained are due to chance. Based on the test statistics, the received p value is to be compared with the assumed level of significance α. If $p \leq \alpha$, H_0 is rejected and H_1 is accepted, whereas if $p > \alpha$, there is no reason to reject H_0.

4. METHOD

4.1. Subjects

The experiment was conducted with a group of 113 intermediate adult learners studying EFL at the University of Cardinal Stefan Wyszynski in Warsaw in the academic year 2011-2012. The selection of the students followed a non-probabilistic sampling strategy referred to as convenience or opportunity sampling (Dörnyei 2011). All the subjects studied in the researcher's own institution and possessed two key characteristics related to the objective of the experiment: they qualified for the

B1+ level of proficiency in EGP and studied international relations at the Faculty of Law and Administration. The respondents came from 2 first-year and 2 second-year student groups. Their level of proficiency in EAP was measured on a test with a maximum score of 40 points. Both groups had the same teacher.

4.2. Instrumentation

To investigate the impact of two differing blended learning procedures on the acquisition of EAP vocabulary, the quasi-experimental research design was employed. It had both pre- and posttests, experimental and control groups, but no random assignment of subjects (Nunan 2004). Before the experiment, both groups were provided with pretreatment tests meant to assess their knowledge of technical vocabulary. The test had two parts: receptive and productive. The former involved a matching task in which subjects were requested to match 20 English vocabulary items with their Polish equivalents. The latter consisted of 19 English sentences in which 20 words were blanked. Students were required to supply the missing words, drawing on the number of blanks, each of which corresponded to one word letter, and on one letter that was provided for each word in one of the blanks. After the treatment, the groups received the same two-part posttests. The maximum score on the pre-/posttest was 40 points, 20 points for each part of the test.

Two differing blended learning procedures applied in the experiment refer to disparate study conditions. Both were designed for eighteen-lesson-unit instruction (with each lesson unit lasting 45 minutes) and contained the same five elements:

- face-to-face material presentation;
- face-to-face exercises;
- computer activities and/or exercises;
- self-study;
- pre- and posttest.

Yet depending on the group, the proportion of some elements varied, influencing its lead mode. The lead mode employed in the control group is referred to as the face-to-face mode since the blended learning procedure employed in the group had more face-to-face exercises and fewer computer activities. The blended learning procedure employed in the experimental group, here referred to as the computer mode, consisted of fewer face-to-face exercises and more computer activities and/or exercises. The core materials in both groups were presented and initially practised in the face-to-face mode (4 lesson units). Following that, the control group – working under the teacher's supervision, spent 7 lesson units doing pencil and paper exercises and topic related activities in class while 2 lesson units of their time were devoted to computer activities. In the experimental group, the time devoted to pencil

and paper exercises and other topic related activities was limited to 2 lesson units, whereas computer activities and/exercises were designed for 7 lesson units. In addition to that, it was assumed that students in both groups devoted about 3 lesson units to self-study. It took two lesson units to administer the pretreatment and posttreatment tests (cf. Figure 1).
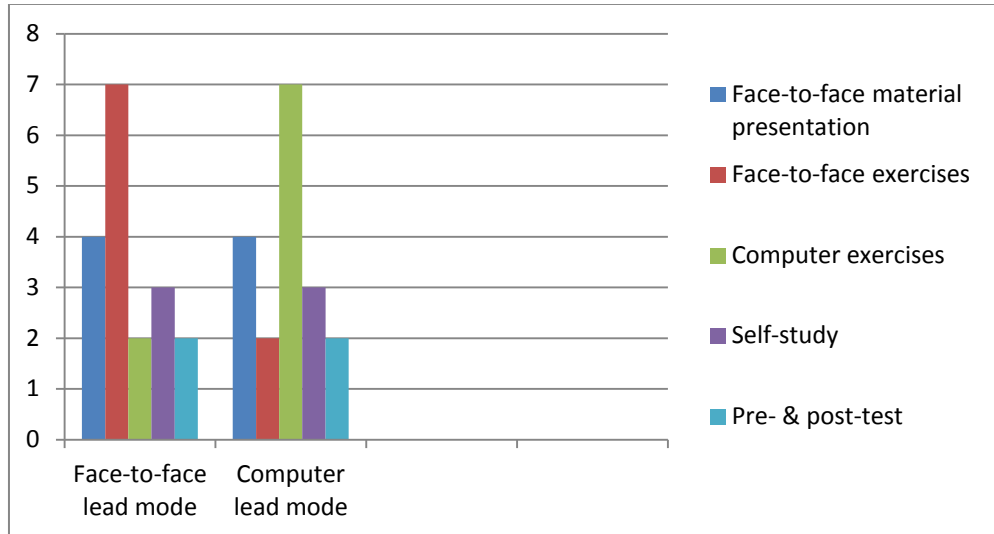

Figure 1. Activities and exercises employed in the control and experimental groups

Source: own

Exercises conducted in the face-to-face mode, computer mode and self-study mode supplemented the syllabus and provided the students with controlled practice and extension activities, giving them the opportunity to review and recycle in the group lead mode all that was presented in the face-to-face mode. As regards the materials used at the face-to-face presentation phase, a blend of customized reading comprehension texts were employed in both groups. The texts were based on the selected chapters from the following textbooks: *Lexical Compendium: Politics* by K.A. Luto and M. Ganczar (2007) and *Aspects of Britain and the USA* by C. Garwood, G. Gardani and E. Peris (1994). In addition to that, short YouTube videos (the British Constitution, six principles of the US Constitution) followed by comprehension questions were shown to the students. Both groups had these materials embedded on an open-source e-learning platform MOODLE (UKSW, 2011) and could refer to them while learning.

In contrast to the control group, the experimental group had a series of follow-up exercises embedded on the platform. These learning assignments included interactive comprehension quizzes to YouTube videos mentioned above as well as vocabulary exercises (such as crosswords, matching tasks, gap-filling exercises, quizzes, jumbled words and sentences) created for the purpose of the experiment with the help of the free lesson construction software *Hot Potatoes* Version 6. The

control group had access to the same activities, but in the face-to-face mode. The lexical material thus presented was also consolidated in the form of mini presentations (e.g. basic principles of the British/American Constitution, British/American Legislature, Executive, Judiciary) prepared by the students in the self-study and face-to-face modes. The former mode also involved consolidation exercises from *Lexical Compendium: Politics* by K.A. Luto and M. Ganczar (2007) and referring to the materials embedded on the platform.

4.3. Procedures

Attempting to explore the impact of two differing blended learning arrangement of activities on EAP vocabulary acquisition, the following procedure was employed:

1. The pretest to collect data on the subjects' pretreatment knowledge of technical terminology;

2. Deciding on the control group and the experimental one;

3. The presentation of technical terminology in the face-to-face mode in both groups;

4. Follow-up exercises and activities in the lead mode of the group and self-study mode;

5. Mini presentations prepared by the students in the self-study and face-to-face modes;

6. The posttreatment test to collect data on the subjects' posttreatment knowledge of technical terminology;

7. Employing the Mann-Whitney U Test to analyze the pre- and posttest scores of the subjects acquiring technical terminology in different study conditions.

5. RESULTS

The results obtained in the course of the experiment show that the experimental group performed better on the receptive part of the pretest (M = 6.53; SD = 2.73 for the experimental group and M = 4.96; SD = 2.25 for the control group), only slightly outdoing the control group on the productive part of the pretreatment test (M = 0.05; SD = 0.22 for the experimental group and M = 0.00; SD = 0.00 for the control group). Running the Mann-Whitney U Test shows that at the pretreatment phase of the experiment, the differences between the groups are statistically significant only for the receptive aspect of vocabulary knowledge (U = 979.500; Z = -3.576; $p < 0.01$), and not for the productive aspect (U = 1512.500; Z = -1.702; $p > 0.01$). In the former case, it is thus possible to accept the alternative hypothesis implying statistically significant differences between the groups on the pretreatment reception

test, whereas in the latter – the null hypothesis about the lack of such differences on the production pretest is to be accepted.

At the posttest phase, the experimental group slightly differed from the control group on the receptive part of the test (M = 17.95; SD = 2.23 for the experimental group and M = 17.75; SD = 2.55 for the control group). When it comes to the productive part of the posttreatment test, the control group outdid the students in the experimental group (M = 13.09; SD = 4,66 for the control group and M = 8.03; SD = 4.13 for the experimental group). When the Mann-Whitney U Test is run, it shows that at the posttreatment phase of the experiment the differences between the groups are statistically significant only for the productive aspect of vocabulary acquisition (U = 691.500; Z = -5.201; p < 0.01). Drawing on the results obtained, it is possible to accept the alternative hypothesis about differences in score means between the groups in the area of productive vocabulary acquisition. As far as the receptive aspect of technical vocabulary acquisition is concerned, the test results show that the differences between the groups are not statistically significant (U = 1564; Z = -0.182; p > 0.01). Thus for this aspect of vocabulary acquisition, the null hypothesis about no differences in score means between the groups must be accepted.

The results presented above show that before the experiment, the experimental group (the computer lead mode) outdid the control group (face-to-face lead mode) in the area of receptive knowledge of technical terminology. As far as the productive aspect of vocabulary knowledge is concerned, the groups manifested statistically insignificant differences at the pretreatment stage. The results obtained for the posttreatment phase do not display statistically relevant differences in the area of receptive vocabulary acquisition, which seems to testify to the fact that both blending learning procedures employed were equally conducive to the expansion of receptive knowledge of technical vocabulary. Since after the experiment we can observe statistically significant differences in the productive aspect of EAP vocabulary and they work to the advantage of the control group, it must be concluded that the face-to-face mode accounted for the progress in the productive acquisition of technical terminology.

6. CONCLUSION

The results of the experiment presented in this article are to be viewed with caution and treated as suggestive rather than definite for several reasons. The most important of them relates to the reliance on convenience or opportunity sampling to select the target population meeting certain practical criteria pertinent to the objective of the study. This sampling strategy makes general relevance of the experiment findings less significant since the extent of generalizability of this type of sample is rather negligible.

The results of the experiment do not seem to run contrary to common sense predictions and thus by no means appear surprising. They testify to the fact that two

differing blended learning procedures proved to be equally conducive to the receptive acquisition of EAP terminology. Accordingly, it can be concluded that irrespective of the lead mode of the group, the students participating in the experiment successfully acquired EAP vocabulary receptively. On the other hand, the productive expansion of technical terminology was more problematic for the group employing the computer lead mode. This might, for example, imply some individual differences between the groups, one of them being the lack of learner appropriate strategies of vocabulary learning and retrieval in the experimental group.

It seems that more experimental studies are needed to explore the impact of various blends of online and offline activities on vocabulary acquisition, in both EGP and EAP. It also appears advisable that these research designs rely on probability sampling and incorporate, if necessary, lexical strategy training thus making the online component of the blend more tailored to the learner needs. As yet, a first tentative attempt at explaining the impact of two differing blended learning procedures on EAP vocabulary acquisition has been made.

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