Collaborative and Team Teaching in ESP Contexts

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Abstract

English for specific purposes is a crucial matter in English teaching that needs a lot of attention in our education systems. For this purpose, the present study was an attempt to investigate the ways of teaching ESP. Among eighty men in mechanical engineering from foreign brand vehicle manufacturing factory employees, 45 learners were chosen by placement test and they were put randomly in three groups. In first class, subject teacher taught, in second one, language teacher taught and in third classroom, both of them taught in cooperation with each other. The book that was taught was the same for all three groups and that was ESP for automotive mechanics for SAMT publication. At the end of the courses, an achievement test was held at the same time for all three classes. I used MANOVA tests for statistical analysis of variables which are final scores. The results supported the hypothesis which states that team teaching and cooperation between subject teacher and language teacher at the same time in one ESP class can be a good way of ESP teaching and the final result will be better.

Key words: ESP, Collaborative and team teaching, General English (GE), Subject teacher, Language teacher

Introduction

With the end of the Second World War in 1945 technology, science and economic activities had been developed, which this fast development led to a serious demand for an international language and for the economic and politic power of the United States, this role fell to English.

As English become the accepted international language of technology and commerce, it created a new generation of learners who knew specifically why they were learning a language. The general effect of all this development was to exert pressure on the language teaching profession to deliver the required goals (Tom Hutchinson and Allan Waters, 1987).

English for specific purposes is concerned with the needs of language learners and aims to show how general English and specific purposes are individually important. The main concern 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(Tony Dudley – Evans and Maggie Jo ST John, 1998). The goal of English for Specific Purposes is not primarily the teaching of a subject in English as a foreign language, but rather that the aim is to teach English with a specific content which is normally mixed with general topics (Maleki Ataollah).

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ESP has been emerged by needs of learners. It's a way to reach learners goal of learning English and try to find learners specific needs of foreign language and design related syllabuses according to their needs.

ESP has been divided in to two main categories: EAP (English for Academic Purposes) and EOP (English for Occupational Purposes), and these two categories have some other subcategories their selves, such as English for science and technology, English for legal purposes and ... in EAP and professional and vocational purposes in EOP. Learners have different needs and interests which would have an important role on their decision to foreign language learning. This led to the development of new approach in which focus on learners' needs and interests.

GE (General English) and ESP are different in content, methodology, syllabuses because they have different goals. In GE, learners most need language for communication purposes and of course new approaches in language teaching most focuses on speaking and listening as a final goals of foreign language learning whereas ESP has generally been concerned with procedures and practical outcomes.

So we need particular focus on the way of need analysis, course design, choose methodology and evaluation of GE and ESP and try to find the best way to obtain the best result.

There are three options to teach ESP: English teacher, content teacher and cooperation of these two. Each of them has some advantages and disadvantages, and to reach to the best result, a lot of researchers try to investigate the best way.

English teachers have adequate information and experience for teaching English and know English teaching methods completely, and of course content teachers have enough knowledge of specialized texts and expressions of subject, so it can be assumed that cooperation of these two as a team in ESP classes under some circumstances, can be useful and meet learners' needs better.

Review of the Related Literature

To date, many studies have been done on the ESP teaching, but a few of them have focused on team teaching in ESP. Co-teaching approach as a whole and its different models in particular have been investigated from various perspectives in different educational contexts.

What is ESP?

I start by looking at three definition of ESP found in the literature.

First definition returns to Hutchinson and Waters (1987) that see ESP as an approach rather than a product. They mean that ESP isn't a specific kind of language or methodology; rather it is an answer to the simple question: why do learners need to learn a foreign language? Need is defined by the reasons for which the student is learning English and these needs are the reasons for the creation of ESP.

They offered a definition of ESP not by showing what ESP is, but rather by showing what ESP isn't:

- a. ESP is not a matter of teaching specific varieties of English and it doesn't imply that it is a special form of the language, different in kind from other forms.
- b. ESP is not just a matter of Science words and grammar for Scientists.
- c. ESP is not different in kind from any other form of language teaching. The content of learning may vary, but it's not a reason that the process of learning by ESP learners should be different by General English learners.

Tony Dudley- Evans and Maggie Jo St John (1998) attempt to pull together the theory and practice of English for Specific Purposes. They believed that English for Specific Purposes had

generally been seen as a separate activity within English Language Teaching (ELT), and ESP research as an identifiable component of applied linguistic research. They argued that ESP teaching has its own methodology and all ESP teaching should reflect the methodology of the disciplines and professions it serves. In their definition they use absolute and variable characteristics as described below:

Absolute characteristics:

- ESP catered for particular learner's needs;
- ESP employs underlying methodology and activities of the disciplines it serves;
- ESP is centered on the language elements appropriate for the study field

Variable characteristics:

- ESP may be designed for specific disciplines;
- ESP may use, in specific teaching situations, a different methodology from that of general English;
- ESP is designed for adult learners who are at the intermediate or advanced level with the basic knowledge of English system, but it can be used with beginners.

Historical development of ESP:

The need for a lingua franca of science, technology, education, and business has led to the world wide demand of English for Specific Purpose (ESP).

Like most development in human activities, ESP was not a sudden and planned phenomenon, but rather its an activity that grew out of some reasons.

Tom Hutchinson and Alan Waters identified three main reasons to the emergence of ESP:

1. The needs and demands of a New World :

With the end of the Scond World War in 1945 arose a big expansion in science, technology and economy on the international scale.

Because of expansion in technology and commerce soon generated a demand for an international language and because of the economic power of the United States, this role fell to English.

Before that, there were no exact reasons to learn foreign languages, but as English became the accepted international language of technology and commerce; it created a new generation of learners who knew why exactly they were learning a language.

This development was accelerated by oil crisis of the early 1970s. English suddenly became big business, so previous teaching methods were not appropriate any more.

2. A revolution in linguistics

Beside the fast growing of specific needs from foreign language learning new ideas started to begin in the staudy of language. Widdowson (1978) proposed a new idea that shifted attention from grammar to communicative approach of linguistics. This idea claimed that the language we speak and write varies considerably and from one context to another. So if language varies from one situation of use to another, it should be possible to determine the features of specific situations and then make these features the basis of the learners' course.

3. Focus on the learner

New developments in educational psychology led to the rise of ESP which focus on the learners' needs and their attitudes to learning. Learners have different needs and interests which have important role on their motivation to learn and therefore on the efficiency of their learning. This attitude led to need a new approach that emphasise on the relateness between courses and learners' goals. The assumption underlying this approach was that the clear relevance of the English course to their needs would improve the learners' motivation and make learning better.

Tony Dudley – Evans and Maggie Jo St John in their book, Developments in English for Specific Purposes, claimed that ESP is essentially a materials- and teaching- led movement. They believed that the original starting of the ESP movement resulted from general developments in the world economy in the 1950s and 1960s. The developments such as: the enhancement of science and technology, the increased use of English as the international language of science and business, the growth of economic power of oil-rich countries and the population growth of international students studying in English language countries.

Howatt (1984) argued that, it was certainly in the mid to late 1960s, that different reasons came together to create the need and importance for developing ESP as a discipline.

In the late 1970s and early 1980s there was a period of constancy in ESP and it was important to stablish the need for ESP work.

Types of ESP

ESP has traditioally been devided into two main areas: English for Academic Purposes (EAP) and English for Occupational Purposes (EOP).

In EAP, English for Science and Technology (EST), English for Medical Purposes (EMP) and English for Legal purposes (ELP) have been the main area. Recently the academic study of economics, accounting, finance and business have become very important.

EOP includes professional purposes in medicine, law and business, and vocational purposes for non-professionals in work or pre-work situations. Thus we should distinguish between for example medicine for academic purposes, which are suitable for medicine students and studying for occupational purposes, which is appropriate for doctors or nurses.

Need Analysis in ESP:

The key steps in ESP are need Analysis, syllabus and course design, material selection, methodology (teaching and learning) and evaluation in ESP.

According to Tony Dudley-Evans and Maggie Jo St John, need analysis is the process of stablishing the "what" and "how" of a course and is the corner stone of ESP and leads to a very focused course.

Teachers and trainers should gather information from learners in order to find their needs and get better decision to continue the rest of period. The information obtained from students will only be as a) the questions asked and b) the answer analysis.

Syllabus and course design in ESP:

A syllabus is a document which says what will (or at least what should) be learnt. A *syllabus* is an outline and summary of topics to be covered in an education or training course.

The syllabus is a framework within which activities can be carried out and a teaching device to facilitate learning (Widdowson, 1984).

David Nunan believed that syllabus design is being concerned with the selection and grading of content. In ESP courses, syllabus design has crucial role; because most of ESP periods are short and in restrict time they should fulfill to their goals, so have a good and clear syllabus can guide them better.

Materials Selection in ESP:

Materials writing is one of the most important features of ESP in practice. In contrast with General English, because of special feature of ESP courses there aren't any public materials. A teacher or institution may wish to provide teaching materials that will fit the specific subject area of particular learners, but such materials may not be available in common, so a large amount of the ESP teachers' time may well be taken up in writing materials.

Hutchinson and Waters (1987) noted some charachteristics for ESP materials:

- Materials provide a stimulus to learning. Good materials do not teach, they encourage learners to learn.
- Materials help to organise the teaching-learning process, by providing a path through the complex mass of the language to be learnt. Good materials should provide a clear and coherent unit structure to maximise the chances of learning.
- Materials comprise a view of the nature of language and learning and should truly reflect what the author think and feel about the learning process.
- Materials reflect the nature of the learning task.
- Materials can have very useful function in broadening the basis of teacher training, by introducing teachers to new techniques.
- Materials provide models of correct and appropriate language use.

Methodology in ESP:

Hutchinson and Waters believed (1987) that, it is imposible to deal adequately with methodology in a book. It has to be experienced in the classroom. They insisted on two very important points:

- There is nothing specific about ESP methodology. The principles which underlie good ESP methodology are the same as those that use for ELT in general. ESP teachers can learnt a lot from General English and its not necessary to learn whole new methodology. The skills and techniques acquired in General English teaching can be used in the ESP classroom.
- What happens in the classroom is not just ready-made materials and syllabuses. The activities in the classroom should feed back to all other stages in the course design.

As a result, ESP practitioners can use a combination of different methods which are used in General English classroom.

Assessment and Evaluation in ESP:

Assessment is the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand, and can do with their knowledge as a result of their educational experiences.

The value of tests depends on how they are used. In ESP courses, the needs of teachers and learners are the base. A grade isn't very important but its real meaning lies in understanding the reasons why it was given and what it tells the learners about how they might continue their future works.

Dudley-Evans and St John (1998) believed there are no test types specific to ESP; what may be different is the ferequency which a question type is used. The writing of test items and class materials are very similar. All question type which is used on a test should be being used in teaching even with different shape, but everything used for teaching is not appropriate for testing. Like other language tests, ESP assessment should involve writing, reading, speaking and listening skills but in specific condition and for specific needs.

Teachers of ESP:

Teaching English for Specific Purposes was and is a controversial issue among EFL teachers and others. Whether the EFL teacher or the specialist in the field should teach ESP courses is the matter of controversy.

Personality, knowledge and experience are important factors for an ESP teachers, like other teachers, but what is important in ESP teaching is that, an ESP teacher besides enough knowledge in a specific field should have good qualification in teaching English.

Ataollah Maleki (2014) believed that the EFL teacher is the person who is better qualified to teach ESP courses or at least the specialist in the field has the right to teach ESP courses if he/she has acquired an EFL teacher's qualifications.

Most ESP teachers have a language teaching background and do not have first-hand experience of the content of other disciplines (Dudley Evans and St John, 1998).

Hutchinson and Waters (1987) stated that ESP teachers do not need to learn specialist subject knowledge. They require three things only :

- 1. A positive orientation towards the ESP content;
- 2. A fundamental knowledge of the subject area;
- 3. An information of how much they probably know;
- 4. For example when a teacher confronted with a machine, he/she should not necessarily know how it works, but should be able to recognize what is the machine used for or what's the part called and etc.

Collaborative and team teaching in ESP:

Teaching ESP is the critical point in English learning process, because it focuses on learner's needs and teacher's selection is the most important decision for ESP courses. In team teaching approach, the most crucial point is that teachers should be responsible and share tasks according to their abilities.

Over the last 20 years most English-medium schools around the world have adopted some form of collaborative teaching to raise the integration of ESL pupils into the mainstream classroom and to develop more language-conscious approaches to teaching (Davison, 2006).

Co-teaching is traditionally defined as the collaboration between general and special subject teachers for all of the teaching responsibilities during the course in the classroom (Gately, 2001).

Through the use of successful cooperative planning and techniques, teams of classroom teachers not only discover how to improve their lesson delivery and differentiate instruction for ELLs, but also offer peer support to each other and engage in formal or informal training and peer coaching arrangements (Dunne & Villani, 2007).

Along with all advantages of team teaching in ESP, there are some problems too.

One of the problems with such a principle is that it is very sloppy in practice. Language teachers do not always know as much as they think they know about the content language demands of other courses. Language teachers can find themselves weak where they are trying to answer questions about subject matter which is not their specialism. Pay schedules do not allow for two teachers in one classroom. Some aspects of language appear to be subject-specific and others do not. The extent of the responsibility of content teachers for teaching the language of their subjects is not clear.

Honigsfeld and Dove (2008) emphasized that planning is an important factor in a successful co-teaching program. It gives practitioners the opportunity to divide tasks and modify class activities, textbooks, and assignments, so that all pupils can take part in the learning process.

Statement of the problem

A large number of articles and books have been written about techniques for teaching ESP, but one of the major problem most institutions and universities are faced with, are ESP teachers selection problem.

On the one hand subject teachers have a good knowledge of the subject that would be taught and know the exact concepts of phrases and expressions, which can help to exact concepts' transmission. On the other hand, language teachers learn English teaching in a scientific way and exactly know how to teach each language skills. They know the latest and best teaching methods, need analysis, course design and evaluation. So they should obtain better outcomes in their ESP classes and better respond to leaners needs but some people claim that EFL teachers do not possess the necessary grip of the subject matter, therefore they may not be able to exchange ideas which contribute to bringing about the intended learning outcomes.

Research Questions

The present study will be an attempt to answer the following research question:

Q1) who should teach ESP? Subject teacher or language teacher?

Q2) Are the results and outcomes of the subject teachers' ESP class better?

Q3) Are the results and outcomes of the language teachers' ESP class better?

Q4) Are there any differences between language teachers' and subject teachers' ESP classes?

Q5) Are there any good effect on ESP classes' outcomes and reaching to learners' need if subject teacher and language teacher teach together as a team?

Method

Participants

In order to investigate the impact of cooperative teaching in ESP courses and collect information, I have chosen eighty men in mechanical engineering from foreign brand vehicle manufacturing factory employees to participate in the placement test. After test, I've chosen forty five subjects with scores higher than twenty and divided them into three groups of fifteen individuals of ESP learners according to their English level. All of them are Iranian male learners which need English for specific purpose that is their job and they have at least a mechanics associate diploma.

Instrumentation

In order to classify learners into 3 groups, we use placement test that is a part of TOEFL test. Of these, forty five students from eighty, whom their score were 20 or above on the placement test were selected to take part in the study. To continue the class we choose academic ESP book for the student of automotive mechanics from SAMT publication. And finally we use an achievement test for evaluation. The final achievement test comprised reading comprehension passages, vocabulary and understanding printed texts.

It should be noted that need analysis, course design, additional materials, such as some Scania's document and evaluation procedures during the course depend on the teachers and in cooperative class, they decided together.

Data Collection Procedure

In the current research, an experiment is conducted to find out who is better qualified for the job, so the following procedures will be handled to conduct this research:

First of all I took placement test that is a part of TOEFL test among eighty male employees which have studied mechanic at university and chose forty five male students among them with scores higher than twenty and divided them randomly to three groups of fifteen individuals of ESP learners named A, B and C. By tossing a coin, we decided who might teach each class.

In all three classes, academic ESP book for the student of automotive mechanics from SAMT publication were taught which consists of fourteen units. Each unit includes a topic in automotive mechanics with exercises on reading comprehension, vocabulary, understanding a printed text, and translation practices.

In first classroom (A), subject teacher, who has a Master degree in mechanical engineering and have a good English knowledge, taught.

In second classroom (B), language teacher (TEFL teacher), who has a bachelor degree in English language translation and now is an English language teaching MA student, taught.

These two classes held at the same time.

After four sessions of starting first two classes, the third classroom (C) started which, subject teacher and language teacher taught in collaboration with each other as a teaching team.

We started the third classroom after A and B classes, because in first two classrooms, teachers were not affected by each other's methods.

At the end of each course after 12-week and two hours in each week treatments we held an achievement test in order to evaluate learners and investigate their English proficiency after course.

The obtained data then submitted to statistical analysis.

Data Analysis

To analyze the collected data in order to compare the obtained result from each classroom and examine the research hypotheses and answer the research questions, MANOVA was used.

Results

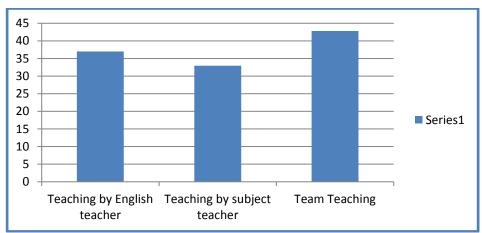
In this section for further understanding of the variables and summarizing the collected data, descriptive findings of the study such as demographic variables frequency tables and the mean of main variables is observed and presented in tables and related charts.

Descriptive Statistics:

 Table1. Placement test score according to groups

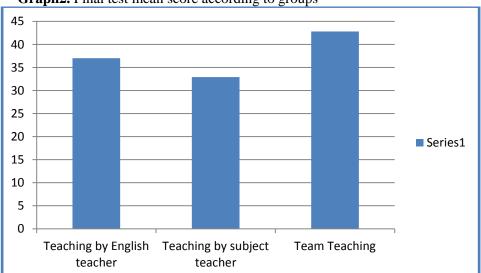
Group			Mean	St. Deviation
Teaching	by	English	22.73	1.63
Teaching	by	subject	22.66	1.16
Team Teac	ching		22.26	0.961

Graph1. Placement test mean score according to groups



According to the above table and graph, subjects' placement tests mean score in initial test in order of teaching by English teacher is 22.73, teaching by subject teacher is 22.66 and teaching by the cooperation of subject and language teacher is 22.26.

Table2. Final test score according to groups						
Group	Mean	St. Deviation				
Teaching by English teacher	37	2.77				
Teaching by subject teacher	32.93	2.40				
Team Teaching	42.80	3.52				



Graph2. Final test mean score according to groups

According to the above table and graph, subjects' final tests mean score in order of teaching by English teacher is 37, teaching by subject teacher is 32.93 and teaching by the cooperation of subject and language teacher is 42.80.

Inferential statistics:

In this section and by using appropriate statistical tests, testing the hypothesis of this study will be discussed. In the following, I will report results of this test to the assumptions of this study.

Table3. Significant level's result of Kolmogorov-Smirnov test								
Score	Score Frequency Test Significance							
Placement test	45	1.05	0.212					
Final score	45	0.607	0.855					

Inferential statistics method (Kolmogorov-Smirnov test):

In Kolmogorov-Smirnov test, the hypothesis of the study is defined as follows:

(H₀ : The observations follow a normal distribution

 $(H_1 : The observations dont follow a normal distribution)$

So considering that the significance level of testing related to variables is more than 0.05, the normality assumption of the observations is acceptable. Parametric tests can be used to evaluate the assumptions.

Placement test's scores analysis

Analysis of the homogeneity of variances:

Table4. Levene's test	results	
Score	F	Sig.
Placement	1.60	0.214

Considering that the achieved significance level is greater than 0.05, the groups were not significantly different in terms of variance, so the hypothesis of equality of variances for Manova test is met.

Table5. Manova analysis for placement test result									
Dependent	Sum	df	Mean	F	Sig				
variable	of squares		Squares		C				
Placement	1.91	2	0.956	0.580	0.564				
COOTO									

In confidence interval 95 percent from obtained results for presented variables with the amount of 0.05, considering that this amount of placement score is higher than desire error rate (0.05), null hypothesis is not rejected and indicates no difference between the groups. Tests the null hypothesis shows that the error variance of the dependent variable is equal across groups. In the following, LSD test used for further investigations.

Table6. Tests of Between-Subjects Effects of placement score

Group I	Group J	Mean	St.	Sig	95%Confidence Interval	
			Error	-	Lower	Upper
Teaching by subject teacher	Teaching by English teacher	0.667	0.468	0.888	-0.879	1.01

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	Teaching by both of them	0.466	0.468	0.325	-0.479	1.41
Teaching by English teacher	Teaching by both of them	0.4000	0.468	0.398	-0.545	1.34

In confidence interval 95 percent from obtained results for presented variables with the amount of 0.05, considering that this amount of placement score is higher than desire error rate (0.05), null hypothesis is not rejected and indicates that the participants' placement score of all three groups in the beginning were at the same rate.

Final test's scores analysis

Analysis of the homogeneity of variances:

Table7. Levene's test results	5	
Score	F	Sig.
Final test's scores	1.38	0.262

Considering that achieved significance level is greater than 0.05, therefore the groups were not significantly different in terms of variance and assumption of variance equality to Manova test is observed.

Table8. M	Table8. Manova analysis for final test result								
Dependent Sum of df Mean F									
variable	squares		Squares		-				
Placement	737.64	2	368.82	42.63	0.001				

In confidence interval 95 percent from obtained results for presented variables with the amount of 0.05, considering that this amount of final score is fewer than desire error rate (0.05), null hypothesis is rejected and indicates difference in scores between subjects with different teachers. In the following, LSD test used for further investigations.

 Table9. Tests of Between-Subjects Effects of final score

Group I	Group J	Mean	St.	Sig	95%Confide	nce Interval
_	_		Error		Lower	Upper
Teaching by subject teacher	Teaching by English teacher	-4.06	1.07	0.001	-6.23	-1.89
	Teaching by both of them	-9.86	1.07	0.001	-12.03	-7.69
Teaching by English teacher	Teaching by both of them	-5.80	1.07	0.001	-7.96	-3.63

In confidence interval 95 percent from obtained results for presented variables with the amount of 0.05, considering that this amount of final score is fewer than desire error rate (0.05), null hypothesis is rejected. Considering that the confidence interval of desired range is negative, represents that the mean score of subject teacher's class is lower in comparison of two other classes.

In further investigation between language teacher's class and class which is taught by cooperation of both teachers, it is observed that the scores of cooperative and team teaching class is higher than English language teacher's class too.

Conclusion:

The result of the present study indicated that a good cooperation of English teacher and subject teacher as a team in the ESP classroom is the most effective way of teaching ESP. Those participants who had two teachers in their classroom performed better and got better scores in final achievement test. With an overview on our results, tables and graphs we can say that after cooperative class, the next best result returns to English language teacher's classroom and it can be concluded that good knowledge and experience of teaching beside knowledge of special field can be react better than proficiency in special subject's language without enough knowledge and experience of teaching.

Based on the findings of this research, it can be resulted that a good ESP teacher should has good knowledge of subject and be enough experienced in teaching English and with two teachers that are professional in these two field we can obtain better results and our learners can achieve to their needs of English.

The results of the final achievement test also revealed that, if two teachers with different expertise can plan and work together, they can manage classroom better and obtained better result in final assessment.

To conclude, collaborative and team teaching in ESP contexts can be a good method and provide the opportunity for learners to learn English for specific purposes.

Pedagogical Implications:

This study, like other studies, has some implications for different individuals including ESP teachers, education authorities, researchers, and textbook writers and curriculum designers.

The present study helps ESP teachers to become familiar with benefits of team teaching. ESP teachers can use such findings in a pedagogical context. They can use the guidelines to have better outcomes in their classes.

Moreover, the findings of this study may have important implications for curriculum designers and researchers. As a result of this study, more areas of research can be recognized in order to help curriculum designers understand the considerable changes of learning environments and their impact on teaching pedagogy. Also, curriculum designers and textbook writers can allocate more space in their course books to the team teaching in ESP courses and its efficacy on learners' outcomes.

By knowing about the benefits and the efficacy of team teaching in ESP courses, education authorities can decide to use two teachers at the same time in cooperate with each other in ESP classes to promote learners operation.

Suggestions for further research:

For those who are interested in carrying out research in the area of team teaching in ESP contexts, the following points are suggested:

Study on the learners' satisfaction of the presence of two teachers at the same time in the classroom could help to reach to the better results of the study. Next to it, newer methods of ESP teaching can be investigated.

Moreover, the sample in the present study included only males. So, this research can be duplicated with male and female learners to find differences and similarities.

The effect of teachers' independence and freedom at work is an area suggested for further research, because teachers' sense of efficacy appears to be a belief that affects teaching and learning process. Furthermore, the focus of the present study was on mechanical English learners, and other subject areas were not considered. The same study can be done with participants at other subject areas. In addition, as mentioned in section 5.5, one limitation of this study was the number of sessions. Further research can be duplicated with longer periods of training. Since this study did not aim to investigate the age and sex of the participants, which could be important independent variables, other studies might take these independent variables into consideration.

Notes on Contributors:

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