

CASE STUDY OF ESP TEACHING PATTERN USING DESKTOP SIMULATOR

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Abstract: Starting from the current state of ESP teaching and the implementation of desktop simulator-based work into teaching professions at vocational colleges in China, this paper raises a new ESP teaching/learning approach as an efficient means of ESP competence acquisition improvement. Being the case study of the teaching practice at authors' educational institutions, it explores an ESP teaching content development and application of the desktop simulator aimed at providing a powerful tool for the ESP teaching technique in the educational process.

Keywords: desktop simulator, English for specific purposes (ESP), teaching/learning pattern, marine engineering English (MEE).

Introduction. There are two main categories of teachers engaged in ESP teaching in China: English language teachers and those dealing with occupational subjects provided the share of the bilingual education is relatively high in the syllabus. English language instructors, familiar with the language acquisition practice, are not customized much with professional competences of vocational experts.

Moreover, in the course of teaching, they confine themselves frequently to the explanation of a teaching material itself, lacking deep exertion into the contents of subjects and horizontal ties among them. Instructors delivering professional subjects who are familiar with the knowledge in the field, do not possess, as a rule, the competences of well-trained language teachers. They know the equivalent terminology covering the subject, but in the way of arranging communicative situation in English, the instructors fall into a 'silent majority' group with the students, as far as classroom communicative activities are concerned. Therefore, the instructors are often focused on the knowledge content of teaching which could hardly provide adequate consolidation and improvement of students' ability to acquire basic language competences.

The logical result is the lack of activity and communication. At present, the students enrolled in higher navigation colleges are the fourth and fifth groups of high school students. Compared with the undergraduate students, their English skills are insufficient, their study autonomy is low, and their learning purposes are far from being obvious for them. Although some students realize the importance of English learning, but because the foundation is too unstable to keep up with the progress, they become demotivated easily. They are 'deaf and mute' in listening and speaking, and their study pace is still passive. So when the students are faced with an English language class activity, the complexity of syntax and variety of vocabulary make them feel embarrassed.

The research into ESP teaching in China shows that the theoretical research of ESP is much ahead of its practical implementation. Scholars pay more attention to the analysis of target situations instead of teaching/learning patterns proper. More emphasis is focused on the curriculum and textbook selection, with few research and practical implementation of teaching techniques. Up to now, the ESP teaching in colleges and universities in China has not entered a mature stage both theoretically and practically due to at least three reasons: firstly, the problem of an ESP place in college English has not been solved well; secondly, there is no unified understanding of the nature and teaching principles of ESP, and thirdly, the study of teaching techniques in the field of ESP are not elaborated and described thoroughly enough.

Some teaching techniques suitable for general English are copied in the classroom teaching, but ESP has its own distinctive features. For example, in MME classroom too much attention is paid to grammar and translation into the mother tongue. This technique, being traditionally useful in GE teaching, displays itself as inefficient and even destructive for the students' ability to think and communicate in English. The situation becomes more risky when 'on-line' occupational environment, i.e. international seafarers' crew operation is concerned. 1. Ship's simulator as a new approach to ESP acquisition improvement Desktop simulator is a kind of hard- and software in which computer simulation methods are used to display the control box, physical platform and other simulation equipment used on board real ship, simulate operation and control functions of an engine room or bridge equipment, and provide training and proficiency assessment for operators.

At present, some scholars and educators at maritime colleges and universities of China have carried out an exploration into ESP teaching pattern with the aid of a simulator. For example, Cai Donglin [1] probes into the teaching practice of an engine room simulator. He puts forward some suggestions on how to arrange teaching maritime courses and choose the correct training technique according to the simulator-aided teaching pattern, as well as illustrates the achievements made with the help of an engine room simulator by multiple examples. Zeng Dong [2] discusses the analysis of the start-up of the dead-state ship based on the UNITEST engine simulator and considers the whole starting steps of the dead-state ship. Hu Xianmin [3] makes use of virtual engine room desktop system in a small-size class teaching to assist the reform of professional teaching and demonstrates its efficiency. These studies enrich both theory and practice of a simulator-aided teaching pattern and play an important role in promoting ESP teaching technique at vocational institutions.

However, there are some limitations, since the above-indicated approach mainly involves professional cognition, engine room resource management, troubleshooting procedures, etc., as well as it evidently lacks the integration of simulator-aided education with that of MEE teaching. Therefore, it is meaningful and valuable to explore the empirical research of the ESP teaching

pattern based on the simulator operation on the background of traditional teaching technique in order to consider all the benefits of classroom teaching of MEE.

2. Analysis of simulator and ESP teaching pattern. Firstly, it reflects the teaching concept of “learning by doing”. An outstanding American educator Dewey, believes that all types of learning are byproducts of action and knowledge can be learned through action and thinking [4]. The ESP teaching mode based on the desktop simulator reminds the idea of “learning by doing” rather evidently. Taking the simulator as an interface, learners can achieve specific knowledge acquisition and language skill enhancement through a group cooperation and task fulfillment, in the real environment situation. This desktop simulator based on virtual reality allows students to experience and study in the environment of a complete virtual engine room with a sense of presence and manipulation of 3D reality image.

It can not only realize the seamless connection with the work of a large ship engine room, but also enhance the professional ability of students in the field of comprehensive use and management of engine room resources. Secondly, it emphasize the authenticity of teaching content. As is known, authenticity of materials is the soul of ESP teaching. Desktop simulator software is developed on the basis of real situations and scenes, that are closely related to their specialties [5]. As for the simulator operation commands, an English instruction for each working task appears in a true context. It is a real situation for learners to simulate the completion of a work task through reference books (or their own English proficiency) in combination with instructions and pipeline diagrams, which can improve the students competence while facing the real job situations.

Therefore, the ESP teaching based on desktop simulator embodies the authenticity of ESP teaching content and strengthens the characteristics and connotation of ESP. Thirdly, it is based on the needs analysis. In ESP teaching, it is urgent to design a desktop simulator which can meet the needs of individual students according to the complexity of individual differences and language learning level. The desktop simulator described in this paper is a Polish-made UNITEST desktop simulator installed at author’s college. The system uses a large diesel engine as a model to construct a complete virtual engine room, which covers four operating systems of ME power station, auxiliary devices and systems, etc., with full English interface. It is designed and developed according to the needs of job capabilities and can satisfy the diversity of individual differences and needs of students, stimulate motivation and help learners to improve their ESP competence.

3. The operation modes of the desktop simulator. The UNITEST desktop simulator combines the professional ability demand for the 4th engineer of ocean-going ships. It designs the work task and situation based on the operation process. The procedure starts with the dead-state of the ship. First, the emergency generator is initiated to perform the switching ship-shore power and

the emergency power supply, then the main generator is started to execute diesel power supply, and, finally, checks the four major systems of the ME, prepares the relevant stand-by and makes sure that the main engine is operating at a constant speed, which requires the functioning of auxiliary equipment, such as a boiler, air conditioning, refrigeration, etc. Considering the operation of ship's power system in Working task 1, as an example, the learning situation is to start the emergency generator, switch over the power supply between ship and shore and feed emergency power through emergency switchboard. Students are required to complete their tasks with the help of the engine room desktop system by reading English instructions and reproducing their operating procedures in English.

Thus students' reading ability, translation and reciting skills and qualification competence can be activated. The teaching steps are as follows: 1) Divide students into groups and distribute instructions for emergency generator start-up. Students are required to read the manual and discuss the instructions in teams. Let students analyze the pipeline diagram through group discussion and select one representative to report; 2) Ask each group to practice on the desktop simulator reference in compliance with the diagram and instruction book; 3) Comment on the operation process and results of students' activity (discussion, analysis and summary of the malfunction); 4) Choose a student to verbalize the whole operation again in English. The main teaching techniques used are task teaching, situation verbalizing and group cooperation. Students accept the task and complete it in the context of desktop simulator through group cooperation. The form of tasks-cycle was assumed: pretask, task and post-task, that is, the students read the instruction manual and the pipeline diagram with the help of a dictionary or a reference book, and use the information gap between different group competence to understand and grasp the main points of the manual. Then a simulation practice is performed according to the manual and pipeline diagram. After the operation is completed, the students are required to verbalize the whole operation process in English.

The evaluation adopted includes process assessment, results assessment, group competition, which can also be used in the form of both display and instant evaluations to avoid a single assessment and evaluation modes. The comprehensive abilities of students' ESP proficiency should be considered as the assessment goal by means of the overall evaluation model of process assessment. Conclusion Desktop simulator can not only provide the real work situation and content, but also account for learner's needs analysis. It plays an important role in changing the present situation of maritime English teaching and also develops students' language competence.

Therefore we can state that this new teaching pattern could be adopted in ESP teaching. The relevant software was developed for different specialties, systems or operational simulators, all of which provide a new platform for ESP teaching improvement. But it requires teachers to strengthen their professional knowledge and study the teaching function of an ESP using desktop simulator in

order to realize the deep integration of ESP teaching with software, system or simulator and step out onto a new path suitable for ESP teaching pattern. Comparison of empirical results of a semester-long teaching observations in two students' groups by the traditional approach and that of the proposed one, referred to in one of our previous publications [7], completely prove our hypothesis and instill confidence in the approach set forth herewith.

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