

PROJECT-BASED LANGUAGE LEARNING ADOPTED FOR AN ESP MODULE IN SCHOOL OF FOREIGN LANGUAGES, HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY: BENEFITS, CHALLENGES AND RECOMMENDATIONS

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SUMMARY

With its internationally acknowledged benefits, Project-Based Language Learning (PBL) has gained in popularity. In this context, the School of Foreign Languages (SOFL), Hanoi University of Science and Technology (HUST) has been adopting this approach for its five elective English for Specific Purposes (ESP) 2 modules over the past four years. This empirical paper aims at investigating the significant benefits and challenges of PBL when being employed for one of these five modules, English for Mechanical Engineering and Materials Science 2 (EMEMS2) and then proposing recommendations. The findings collected from the questionnaire survey conducted on 54 participants, who were enrolled in the 2016-2017 school year course reveal that PBL plays an important part in enhancing learner autonomy, facilitating the application of on-going assessment and equipping the learners with a series of essential life skills. In addition, the results also show the challenges faced by both the teacher and the learner, including the change in the role of both the teacher and the learner, teamwork, choice of topic and technical knowledge and terminology. In response to these difficulties, the study provides some practical recommendations, based on the survey participants' and the researcher-teacher's ideas.

Keywords: *PBL; ESP; benefits of PBL; challenges of PBL; recommendations for PBL application*

INTRODUCTION

Rationale

Project-based learning has gained its popularity all over the world. Following the trend, the School of Foreign Languages (SOLF), HUST has employed this learning approach for its all five selective ESP modules since 2011. Although a great deal has been written about the theoretical foundation of PBL in general and PBL in particular, very few empirical studies have been carried out to investigate the impact of this approach on the learners, especially Vietnamese learners.

The answers to such concerns as whether this approach is applied properly in language classes in universities in Vietnam; whether its benefits are realized here, and whether its application faces any challenges and if yes, what should be done to overcome those challenges can be found in this case study.

Research objectives and questions

This research is aimed at investigating the benefits and challenges of integrating PBL

into one ESP module namely English for Mechanical Engineering and Materials Science 2 (EMEMS2) designed for English-major students at SOLF, HUST and proposing recommendations to tackle the challenges.

To obtain these objectives, three research questions are raised: (1) *What benefits do the learners of EMEMS2 enjoy from integrating PBL into this module?* (2) *Do the learners and teachers face any difficulties when learning and teaching this module and if any what are they?* (3) *What recommendations can be made to mitigate the difficulties found by the surveyed learners and the researcher-teacher?*

LITERATURE REVIEW

Although being adopted in Vietnam quite recently in 2010, PBL is not a new approach in education in the world, catching the attention of a great deal of educationalists and pedagogists worldwide.

Definition of PBL and PBLL

In fact, there are a variety of definitions of PBL. Buck Institute of Education [1], an American research and development organization defines PBL as "a teaching

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method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging and complex question, problem, or challenge.” Highlighting the learner’ role, Solomon [2] states that PBL is a process of learning that learners are responsible for. Students work collaboratively to solve problems (p.10).

From these two definitions, it can be summarized that PBL is a learner-centred learning approach in which students solve real-world problems in a cooperative environment over a long period of time to create a product.

In a second language classroom, PBL is also defined as “an instructional approach that contextualizes learning by presenting learners with problems to solve or products to develop” [3]. It is easy to see the similarities between definition of PBL and PBLL, which are authentic learning and problem solving. The obvious benefit of adopting PBLL, suggested by Fried-Booth [4], is that this approach creates links between real-world language and language in textbooks.

Features of PBL

The principal features of PBL synthesized by Curtis [5], Hedge [6], Helle, Tynjala, & Olkinuora [7] and Solomon [2] include: (a) a complex exploration over a period of time; (b) a student-centred learning activity whereby students plan, complete and present the task; (c) challenging questions, problems or topics of student interest which become the centre of the project and the learning process; (d) the de-emphasis of teacher-directed activities; (e) frequent feedback from peers and facilitators and an opportunity of share resources, ideas and expertise through the whole process in the classroom; (f) the production of meaningful artefacts that can be shared with peers, teachers and experts in a public presentation; and (g) assessment in both the process of working from the first stage to the last stage and the finished product.

It can be seen from the features (b),(c), and (d) that the roles of the learner and teacher are remarkably changed. The teacher no longer plays the dominating and central role in the

learning process, but acts as a facilitator and advisor while the learner is responsible for his/her own learning, implementing his/her chosen project with the support of their peers and the teacher.

RESEARCH METHODOLOGY

Background information about EMEMS2

Objectives: This module is designed to help learners consolidate and practice English language skills such as Listening, Speaking, Reading and Writing in the field of Mechanical Engineering and Materials Science (MEMS) and deepen their MEMS fundamental knowledge acquired in the previous term.

Content: The syllabus will typically include the planning, implementation and reporting of a group small-scale MEMS designing project.

Assessment: Learners are assessed throughout the module with a variety of assessment tasks including: general proposal (5%), detailed proposal (12.5%), reference materials (10%), term presentation (12.5%), project progress and experience sharing (10%), project presentation (20%), post-presentation quiz answers (5%) and newsletter (25%).

Research method and respondents

Survey questionnaire was used to collect primary data for the research questions because it is easy to analyse and reduces bias thanks to uniform question presentation and the absence of verbal or visual clues from the researcher to influence the respondent [8].

The semi-structured questionnaire was made on Google form, consisting of four closed and four open questions, which aim at eliciting the respondents’ benefits and challenges when learning EMEMS2 and their recommendations to improve the module. It is designed based on the theory of PBL synthesized in the Literature Review above and the researcher’s own observations and written in Vietnamese to make sure that the respondents understand the questions clearly and feel relaxed when expressing their opinions. To ensure objectivity, the respondents’ answers are all anonymous.

The sample of the research is all EMEMS2 enrollers in 2016-2017 academic year, who

are 68 3rd year English-majored students. The researcher decided to employ this purposive sampling method as she assumed that the participants were available and willing to participate in the survey and their experiences of the module were still very fresh as they were invited to join the survey only a month after their module completion.

The questionnaire was then sent to the whole population online via the closed Facebook groups which had been created earlier for communication between the teacher of EMEMS2 (also the researcher) and the students.

The questionnaire was answered by 54 respondents, accounting for almost 80% of the population. The responses to the closed questions were automatically analysed and presented in charts while those to the open questions were analysed and presented in a master sheet by the researcher.

FINDINGS, DISCUSSIONS AND RECOMMENDATIONS

Benefits

It can be said from the survey findings that the most noticeable benefit of the integration of PBL into the EMEMS2 module is the enhancement of learner autonomy. That is the factor that over 80% of the survey participants attribute to the appeal of the module. Indeed, learner autonomy can be highly recognizable from the beginning to the end of the module. In the first lesson, the students are allowed to decide on their team mates, labor division and form of communication among their team, the topics of their projects, and then on the terms to be presented to the class, type of model of the designed product (working or concept model) and finally form and content of their newsletter.

According to Little [9], learner autonomy is extremely beneficial in boosting learner motivation and interest in learning. A student in the survey reconfirmed this idea: *"we are motivated to develop our own product and therefore we are more interested in what we do"*. Moreover, learner autonomy yields other positive results like activeness, independence, and creativity as shared by other respondents

in: *"thanks to autonomy, I feel that my independence has been substantially improved. I am more self-confident in expressing my opinions now"*, *"learning this module, I had a chance to be active in acquiring all the skills necessary for the project process as well as other skills."*, and *"freedom fosters my creativity"*,

Another enormous advantage of PBL is ongoing formative assessment, acknowledged by over 50% of the surveyed students. With formative assessment and without summative assessment, the students can make timely adjustment in their learning strategies and equally importantly, they do not have to suffer from the inevitable pressure resulting from exams, as mentioned by these two respondents *"I like the module because there is no exam pressure"*, *"we do not put all of our attention and energy to just the final exam as usual."*

Finally, a series of essential life skills are obtained through the project process as suggested by Stanley [10]. From over 40% to 50% of the survey participants agree that team work, problem solving, critical thinking and information searching, analyzing and synthesizing skills contribute significantly to the module success. They believe that after the module *"we now know how to divide tasks among team members and listen to each other"*. They also managed to prevent disputes in their team by *"appointing a team leader and assigning specific tasks to team members publicly and fairly"* and *"voting for the best idea"*. Besides, they valued individual responsibility and mutual respect as in *"we make sure that everyone has to be responsible for his/her task and then we sit with each other for group discussions"* or in *"each member has to think of an idea, justifying his idea and we agree over the best one"*.

Explaining why problem solving is another vital skill that they could learn, a student puts it *"we encounter certain problems and difficulties throughout the project process."* Another student shares this opinion as in *"in every step of the project, unexpected problems arise"* and this respondent also concludes that *"therefore, after the project*

completes, I find that I have become more adaptable and responsive to problems arising during my learning process."

The development of critical thinking is also persuasively justified by a student: *"in order to make an optimal product, we have to propose a great deal of opposite ideas"*. Besides developing their critical thinking voluntarily in their teams as also in *"we sometimes put ourselves in the position of the audience and then we can produce a lot of fruitful feedback"*, the students are also asked by the teacher to give their comments on the topics, general outlines and presentations of the other teams on the class.

Furthermore, the students learn where to search information, how to judge its reliability and then what information to use for their project. A student shares his/her experience: *"Submerged in a mountain of information, I learn that I should use key words to search for the relevant information faster."*

Finally, two more skills that are worth mentioning are time management and planning. Freedom would turn into an obstacle if the students did not know how to manage their time and make detailed plans for their project. This is fully understood by a team leader as she/he says *"the project process has transformed me into a better plan maker as I had to assign tasks to the team members and make plans for us to accomplish them. As a result, I have learned that I need to make plans for my study of other modules for higher results"*.

Challenges facing students

The biggest challenge facing up to 58% of the surveyed participants is their limited technical knowledge and terminology. This is understandable when the major of the students is English, not Mechanical engineering and Materials Science. Although before enrolling into this module, they have already been equipped with some fundamental knowledge and terminology of the field in EMEMS1, this is certainly far from enough for their project of designing a technical product. Following closely this challenge is the students' confusion in choosing the content and form of the newsletter, agreed by 57% of the respondents.

This can be explained that there are a variety of newsletter formats available and the students put themselves under the pressure of creating something unique and creative. Similarly, a big number of the surveyed students (45%) also find that the selection of topic gives rise to plenty of confusion and time consumption. This can be attributed to the list of all the requirements of a topic to be satisfied, which are "interesting" "relevant to the field of MEMS", "practical", "creative" and "feasible". Another hindrance to the project process faced by 33% of the students is the poor literature about their topic. Finally, group work is also a problem when a lot of the students (practically 45% and well over 20%) find it hard to arrange a common timetable for group meetings and reach an agreement over the project activities respectively.

Recommendations

These recommendations are put forward based on both the opinions of the respondents and the researcher, who has been teaching this module for six years.

Providing clear orientation of the module: in the very first class, the teacher should provide the learners with a brief introduction to PBL, in which the benefits of PBL and the roles of the teacher and learner should be highlighted. Moreover, all the requirements of the module and the assessment should also be made clear to them. More importantly, the teacher should communicate his/her strong belief to the students that they can successfully complete the module by showing them some outstanding products that previous year students could design. Seeing these success stories also helps to arouse their interest and motivation and give them some clues about what they can do this year.

Setting feasible tasks: it is common knowledge that motivation comes along with success. Therefore, the teacher should only assign the learners to workable tasks. For example, in EMEMS2, the students are asked to design a product which can either be a brand new or just an improvement of an existing one to meet the needs of a group of target customers, for example a product which is cheaper or friendlier to the

environment than the original one. The model of the product they design can be either a working model or just a concept model.

Providing close supervision and frequent coaching: the teacher should keep himself/herself informed of what the students are doing or have done by setting deadlines and regular informal oral reports by each group in each class so that he/she can give them timely guidance and advice. For example, EMEMS2 students are told that they can find information about their projects via websites such as howstuffworks.com, wikihow.com or videos about new domestic inventions and that both English and Vietnamese documents can be of great help to them. They are also encouraged to seek support from external experts such as their schoolmates or teachers who have technical expertise from other departments at HUST if they face any technical problems beyond their teacher's and their capacity. Moreover, they are guided to make a specific plan for each phase of their project, in which the information about what must be done, who is in charge of what and the deadlines is clearly stated. When it is time to build up models, the students should be asked to bring materials and equipment if possible to the class and build them there. By this way, they can take advantage of the support from their teacher and peers and the teacher can make sure that their students are really working on their projects.

Encouraging peer feedback and sharing: as mentioned earlier in (e), point 2.2. in the literature review, frequent feedback from peers and an opportunity to share ideas and resources is a feature of PBL. Therefore, in this module, the students are always encouraged to give their peers feedback as it is believed to foster their critical thinking and active learning. From the beginning of the project process, all the groups are asked to present their ideas of the topics of their interest to the class and the other groups will comment on them based on the list of criteria given by the teacher. This activity is acknowledged as a solution to help a group of students make up their mind about the final topic for their project: *"luckily, the teacher reserved one class for the groups to present*

their ideas and with the comments from other groups, we could decide on the final topic." Furthermore, peer feedback can also be observed in the project reporting activities such as term presentations, project progress report and experience sharing and project presentations where the audience is asked to give comments on their peers' performance, including both the strengths and weaknesses.

Giving specific feedback: as PBL is featured by on-going assessment, the teacher should give detailed comments and marks publicly after every assessed activity so that the students are informed of their strengths as well as weaknesses and therefore can have timely adjustment of their learning strategies.

Using online forms of communication: To overcome difficulty in arranging a common timetable for the team meetings, a very effective measure taken by all of the teams is online discussions via Facebook closed groups, Facetime and Messenger. However, they still emphasize that face-to-face communication is pivotal in solving problems in their teams. Facebook closed groups are also employed by the teacher for faster communication with her students and convenience.

Treasuring the learners' works: the teacher should take photographs of the artefacts that the students create (models and newsletters in case of EMEMS2) and show them to the public (post them on Facebook for example) to treasure their efforts and stimulate their pride of their own works. Besides, the best model should be selected through student and teacher votes and awarded a small prize in order to enhance the learners' interest and motivation.

CONCLUSIONS

This study has answered the research questions. Specifically, the learners of EMEMS2 could enjoy tremendous benefits of PBL such as enhancement of learner autonomy, on-going assessment, and acquisition of a range of life skills. Though, both the learners and their teacher faced some obstacles, the outstanding of which are working in groups, deficiency of technical

knowledge and terminology, abrupt change in the learner and teacher roles. To address these problems, the researcher and the survey respondents propose seven recommendations. From the findings, it can be concluded that the integration of PBL into EMEMS2 module at SOLF, HUST is very much welcomed by the learners with 100% of the survey respondents choosing "Yes" when being asked "Do you like EMEMS2?" One respondent even admitted "EMEMS2 is one of the modules I like the best during my three years of study at university so far". The researcher, therefore, suggests that PBL approach should be adopted more widely for not also ESP modules but for English language teaching in general for its huge benefits.

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TÓM TẮT

SỬ DỤNG ĐƯỜNG HƯỚNG HỌC TẬP THEO DỰ ÁN CHO MÔN HỌC TIẾNG ANH CHUYÊN NGÀNH TẠI VIỆN NGOẠI NGỮ, ĐẠI HỌC BÁCH KHOA HÀ NỘI: LỢI ÍCH, THÁCH THỨC VÀ ĐỀ XUẤT

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Với những lợi ích được cả thế giới công nhận, đường hướng học ngoại ngữ theo dự án (PBL) ngày càng được áp dụng rộng rãi. Nhận thức được những lợi ích đó, Viện Ngoại ngữ, Đại học Bách khoa Hà Nội đã áp dụng đường hướng học tập này cho năm môn tiếng Anh chuyên ngành lựa chọn 2 trong bốn năm qua. Bài nghiên cứu thực nghiệm này nhằm mục đích tìm hiểu những lợi ích và thách thức cụ thể khi áp dụng PBL cho môn tiếng Anh Cơ khí và Khoa học Vật liệu 2 và đưa ra những đề xuất. Kết quả thu được từ bản câu hỏi khảo sát tiến hành trên 54 sinh viên đã tham gia khóa học này năm học 2016-2017 cho thấy PBL đóng vai trò quan trọng trong việc nâng cao tính tự chủ của người học, cho phép áp dụng hình thức đánh giá liên tục và trang bị cho người học hàng loạt kỹ năng sống cần thiết. Ngoài ra, kết quả nghiên cứu cũng chỉ ra những khó khăn mà người học và người dạy gặp phải, chẳng hạn như vai trò của người học và người dạy thay đổi, làm việc nhóm, lựa chọn chủ đề và thiếu kiến thức và từ vựng chuyên ngành. Để khắc phục những khó khăn này, nghiên cứu đã đưa ra một số giải pháp dựa trên ý kiến của người tham gia khảo sát và kinh nghiệm của nghiên cứu viên, đồng thời là giáo viên phụ trách môn này.

Từ khóa: Học tập theo dự án; tiếng Anh chuyên ngành; lợi ích của học theo dự án; thách thức của học theo dự án, đề xuất cách áp dụng mô hình học theo dự án

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