THE PROBLEM-BASED LEARNING (PBL) APPLIED TO HIGHER PROFESSIONAL TRAINING COURSE

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Abstract

This article describes the implementation of the Problem-based learning (PBL) methodology on the higher professional training course. We consider that PBL is a global approach that have been recognized for academics. The results showed that the PBL methodology have ambiguous results. Some group of students were strongly motivated, and others were not so motivated. In general, all students could improve the collaboration between their peers, and communication skills. They evidence an active posture and an autonomous work. Innovation and creativity were evident in the final results. PBL approach can influence students in a positive way. We concluded that the students’ perception about the PBL benefits comes later, when they have an internship experience.

Keywords: Problem-Based Learning, Pedagogical Innovation, Development of behaviour skills, Collaborative Learning, Critical Thinking.

1 INTRODUCTION

The rapid development of new technologies, the strong competition, the excessive use of scarce resources, the global warming, the natural disasters are some of the issues that companies need to deal with, in particular companies that are linked to the tourism sector. The business environment is becoming complex and dynamic and at the same time the employers are more demanding when they recruit students that are finishing their studies. The educational system must response to these trends, and prepare students to be more self-learners, to think critically, and to see the problems of the real-world in a holistic view and integrated manner ([1], [2]). Problem-based learning (PBL) approach is one of the teaching-learning methods that best prepare students with the skills and competences that provide them some answers for the complex global of real-world problems, special within the workplace environment that they will experience in the future. The PBL methodology is an universal approach that have been recognized not only for academics but also for practitioners.

This article assumes that the educational system, in particular the higher education, needs to follow the job market changes and requirements [3]. In these circumstances, it becomes crucial to identify which educational methods should be implemented to cope with such fast-changing job environment. This study draws on PBL methodology, which the authors consider a meaningful methodology that helps teachers to provide links between the theory and the practice and best prepare students to be integrated in the job market within the skills and competences required.

While previous research has implemented the PBL methodology in the medical context (e.g. [4], [5], [6], [7], [8], [9]), this study contributes to the PBL knowledge in the tourism context, within students from Higher Professional Training Course (CTeSP). More specifically, this article describes the implementation of problem-based learning (PBL) approach in the CTeSP’ students of Management Applied to the Development of Touristic Products (GADPT) within Tourism Policy and Planning subject at University of Aveiro.

Although the literature evidence the importance of implementing pedagogical methodologies in alternative to conventional methods of learning [10], there is still few studies that explore new pedagogical methodologies [2]. The literature evidence the necessity to do more studies not only about new pedagogical methodologies, but also within the PBL methodology [11].

The present article is structured as follows. First, the theoretical background of Problem-based learning (PBL) is proposed. Furthermore, we will present the method adopted, we will describe how
we implemented the PBL methodology in the Higher Professional Training Course (CTeSP). Subsequently, we will present the results of the PBL implementation. Evidence of the success of the PBL implementation also is provided. Finally, we will present the final considerations of the study.

1.1 Problem-based learning approach

Problem-based learning (PBL) emerged in 1950s with roots in the medical schools [12]. In that time, there was some concern about the necessity of students to make the best use of what they learned, and there was a call of attention to the challenging the conventional pedagogical methods [10,13,14]. The Higher Education Institutions (HEI) had some issues to deal with: (i) the irrelevance of some knowledge provided by conventional methods of teaching; (ii) learning by memorization that do not allow future retention of knowledge; (iii) the students did not have the practical applicability of what they learned by exposing methods; (iv) the need of motivating students of ongoing studying after graduation [5].

PBL is a pedagogical method that develop critical thinking and problem-solving in real-life learning context [11]. The PBL methodology is developing into a significant research areas, such as professional education and training (e.g. [12], [15], [16], [17]), particularly it started within medical education [18] and later was adopted in accounting education [4], in nursing education [3], in business, architecture, law, social work education [12], physiotherapy, psychology and engineering education [19].

Even PBL had been used since 1950, it continues to gain momentum not only in the context of diverse higher education programs, but also in some earlier programs ([20], [12]). The reason is because PBL is considered an ideal pedagogical model that meet the aims of twenty-first century education, by employing some principles called as the four Cs: critical thinking, communication, collaboration and creativity [2]. The main PBL characteristics are: problem-focused; student-centred; self-directed; self-reflective; facilitative [21]. Through this methodology, students develop skills and competences related to learn to think about meaningful real-world problems, to find solutions to these same problems and to develop the best decision-making strategies. The PBL allows students to learn through a pedagogical approach where they are active participants, autonomous and collaborative to their peers through the all learning process. Furthermore, [22: 3853] highlighted that through PBL methodology, “students to become responsible for their own learning”. Although the PBL methodology promote and motivate the engagement of the students actively, autonomously and within in a responsibility way. The teacher supports the students along the PBL implementation, but he does not give the possible answers. He acts as a facilitator through the discussion-based learning process.

2 METHODOLOGY

In the scope of the curricular unit of Planning and Tourism Policy from first curricular year of Higher Professional Training Course (CTeSP)\(^1\) of Management Applied to the Development of Touristic Products (GADPT) at University of Aveiro, Portugal, during the Spring semester of 2018, it was implemented the PBL methodology.

The total number of students were twenty-two. From the total number of students, 62.5% were female and 37.5% were male. Their age ranged from nineteen years old until twenty-two years old. Only one student was working at the same time he was studying. Different students, with different competences and skills, were engaged in order to work in a collaborative way with their peers.

Throughout 2017, there were some fires, in Portugal, that destroyed and damage houses, forests. In consequence some people lost their family, their friends, their jobs, their goods. The following problem was raised by the teacher:

- How can the Center of Portugal affected by the forest fires that occurred in 2017, develop strategies in order to improve tourist destinations’ promotion?

The students’ final goal was present a problem solution to the challenges released by their teacher.

Working groups of three to four students were formed. The teacher selected the regions that were affected by the fires and that were the subject of study. The students met by group and choose the region they were going to study. Subsequently, these students began researching these regions and

\(^1\) The CTeSP have a duration of two academic years (120 credit points).
collecting the data needed for the study. After the data collection and information treatment, the students presented the regions under study to the other work groups and exchanged some ideas and opinions. The students concluded that there were some similarities due to the proximity of the burnt areas in question and the consequences of this event, but each region showed characteristics of very specific destinations that gave rise to the development and presentation of differentiated strategies. After this brief presentation and description of the target regions of study, the students compared the regions and compared them to regions in other countries affected by natural disasters as well. Finally, the students formulated and presented a strategic proposal for the region under study in order to develop the region as a tourist destination to the other groups. The teacher aimed to promote the students' autonomous work, group work and critical thinking. Students worked in a collaborative way within their group and worked using different strategies. The internet was used by all groups in order to have access to a more generic information. The normal scheduled class time was used for all students that allowed them to work as a team and teacher was supporting them with supervision and with the role as a facilitator.

In this sense, the methodology of Problem-Based Learning (PBL) was implemented in the classroom in order to develop competences and skills related to the real problems resolution and decision making of these same problems.

3 RESULTS

At the starting point, when the question was raised by the teacher, everybody showed some concern about the problem. The situation was very fresh in the mind of students and, directly or indirectly, it affected them. Some of students contributed with goods to help the habitants that lost everything. This was the initial discussion moment, and prior knowledge about the general problem was evident. Furthermore, the teacher selected the regions that were affected by the fires and that were the subject of study. In this point, the students did not know anything about the places, only about what succeed. They showed some resistance toward accomplishing the assessment. They would like to work the regions that they were already familiar with.

Collaboration is very important to the development and implementation of PBL. Students were invited to form their groupwork formed by three or four elements, that worked during all semester. The results differed between groups. Some groups worked very well, and everybody were engaged through the problem to find information and resources that could help them to find some innovative solutions for the problem. Other groups were not so committed to the work. Some elements did not appear to all classes, and sometimes it compromised part of the learning process. By working collaboratively, the students developed communication and motivation skills, team spirit and mutual aid. In order to discuss different ideas, to accept different point of views and to resolve some conflicts that appeared during the semester, students needed to learn the best moment to speak about the situation occurred in order to choose an effective language that help them to resolve some conflicts. By developing collaborative and communicative skills, the student’s evidenced the importance of each group develop leadership competences. The leader helped their team to believe that they could find the best solution to the problem within mutual aid and team spirit. The motivation process exercised all the time by the leader helped all group been engaged within the PBL methodology. It is important also to highlight not only the group motivation factor, but also the individual motivation factor, that provided better results at the end of the semester.

During the PBL process, the students evidenced a very active posture, and they worked autonomous. They divided the initial research work, and they decided the best strategies to acquire more important and differentiate information that could help them to find some solutions. For example, after one group visited the region, they decided to send an email to the president to see the possibility to have a meeting with him. They were so persistent, that they had the meeting, he gave them a book of region and he answered all emails that they send to him after the meeting. These group visited two times the local and spoke with different residents. Other group had a lot of information through the emails that they send to the local government. Students were responsible to be self-directed and self-regulated during their learning process. Teacher in that moment asked some questions about the groupwork development. She needed to understand if all members were engaged in the work, if the information had been shared between all members, and if everybody were motivated to find a solution for the problem.

Innovative and creative solutions emerged within different groups. Most part of the groups identified a problem during their research. Most of these regions did not have public information available within
its website, or within an information portal, for example. So, some groups proposed to create a website, and other proposed a blog that could provide some important information about local culture, heritage, habits, traditions, people, events, patrimony and history. Some groups tried to use some social marketing strategies in order to apply to the emotional affect and tried that people could contribute with the region by visiting the local and stay more than one day as a tourist and plant a tree or offer an animal, for example. Other group presented an idea of creative tourism, where tourists can have some experiences with the residents and learn about some regional and traditional activities. One group presented an idea about terror tourism. It was proposed also a creative photography contest with the aim of portraying the reality of this village and to promote greater contact and share experiences with the others. All people from different ages could participated.

For the young people, the students presented a program that they could contributed with volunteer work by participating in forest cleaning programs, preventing risks of occurrence of fires.

The teacher guided the learning process and conducted a thorough about the reflection of the learning experience along all semester. At the final of the semester, final paper was presented in that moment all groups compared different regions and works.

4 FINAL CONSIDERATIONS

Today’s not only business environment, but also job market environment, are challenging. The educational system must response to these challenges in the best way by adopting new learning methodologies in the higher education system. The PBL is an example of a methodology that can provide meaningful links between theory to practice by challenging students with real-world problems. Students were able to develop some important technical competences in order to think about it, to develop and to resolve real-world problems. The students realized the importance to see the problem from different perspectives, when they exposed their subject to the other colleagues, and also when they contacted other persons that could helped them to provide important information.

The students were able to develop important skills that are necessary to have when they will apply to the job market, such as: critical thinking, communication, collaboration, creativity, motivation, mutual aid and leadership. Students also will be more responsible by conducting their own learning, that also was referred by [22].

The teachers also face a huge challenge by implementing the PBL methodology. It is not only to follow the learning process, but also to motivate students to keep going and motivate them to try different learning methodologies.

This study aimed to present the implementation of PBL methodology in a Higher Professional Training Course in the context of the tourism course. While early studies have investigated and applied PBL focused on the medical education, some authors (e.g. [11]) apply to do more studies within other context. This study contributes to the PBL methodology in order that focused in the tourism high education.

The authors tried to choose an authentic real-life problem that could modify the students’ behaviour and to motivate them to be involved. We believe that It was accomplished this goal in the sense that some conclusions in different reports evidence that their work did not finish in that moment. They will try to put their ideas and solutions in practice. Although we believe that the real and strong students’ perception about the benefits of the PBL methodology comes later. During the last semester of their course, when they have the internship subject and they need to deal with some problems that they encounter in the real job environment.

ACKNOWLEDGEMENTS

This work was financially supported by the research unit on Governance, Competitiveness and Public Policy (UID/CPO/04058/2019), funded by national funds through FCT - Fundação para a Ciência e a Tecnologia.

CIAEGT-IPT, Institute Polytechnic of Tomar R&D Centre and NECE - R&D Centre funded by the Multiannual Funding Programme of R&D Centres of FCT (Portuguese Foundation for Science and Technology), Ministry of Science, Technology and Higher Education.
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