Original Article

Exelearning And Cooperative Learning: A Practical Approach

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DOI: 10.47750/pnr.2022.13.S08.172

Abstract

The purpose of this work is to emphasize the importance of educational programs that, with the help of the virtual platform eXeLearning, provide space to constantly change and adapt technologies and new learning styles, in this case, encouraging cooperative learning for the correct organization and efficiency of class development; for this, it was necessary to use the descriptive type of research, with a practical approach and the application of methods: empirical, analytical - deductive; considering techniques and instruments of information gathering, such as observation sheet, interview, survey, books, Internet, among others, which allowed obtaining confidential and timely information for the development and structure of this work. The application of the eXeLearning virtual platform will facilitate teachers' work to guide students' teaching-learning by combining tools and educational resources that promote learning.

Keywords: eXeLearning, Cooperative Learning, Educational Resources

1 Introduction

Education is the light that shows the way to humanity, and instills self-discipline and commitment in students; teachers also have a very important role in making the learning process interesting, understandable and entertaining as a key factor in its development

through which it seeks to change society, eradicate poverty, illiteracy, social conditions (Alonso Sanchez, M; Gil Pérez, 2012).

The field of education is constantly changing; the daily training process requires more competence and risk, a combination of soft and rigid changes; the direction of study is methodical and has a great impact on the achievement of personal goals; it is not bad, but not seeking to work collaboratively makes it difficult for students to achieve or develop their competencies and formative skills. Moreover, 80% of teaching methods or implementations are traditional; students are passive subjects who accept and apply them, so traditional methods must be changed with the current mode (Vega, 2019). The different situations and phenomena that have arisen have placed new demands on educational institutions to introduce new teaching methods (Cañizares, 2015).

In 2012, the Ministry of Telecommunications and Information Society (MINTEL) implemented the national broadband plan to promote ICT access, providing Internet services to 60% of schools, especially in rural regions; in 2013, they will cover the entire market. In addition, the ministry wants to unify several fields at the national level and has started to educate 70% of the population, arguing that technical training is fundamental for the country's development.

In response to the fact that it is stated that 85% of the population is covered at this point, it is important to note that less than 15% of the population is considered economically challenged and cannot access this service due to their social and economic conditions (Garcia Fallas, 2013). So much so that the country has seen the need to apply cooperative learning, collaborate with students and understand how important good relationships are to building and stimulating knowledge in classrooms and work groups. According to a study conducted at the Catholic University of Santiago de Guayaquil, cooperative learning has been the goal of various educational environments since the emergence of cooperative learning in the United States in the early nineteenth century. Then, however, the economic crisis began to form a competitive model (Arcos Cabrera & Espinoza, 2015).

In Ecuador in the XXI cycle, it is remarkable the scarce use of technology and software throughout society; especially teachers and students, which brings with it the poor application of multimedia resources that cause the disintegration of sound, images, animation, video and text that inhibits their optimal development and performance in the classroom; limits access to reference materials for fear of processing technologies and their computer equipment (National Institute of Educational Evaluation, 2019)

The role of students in the educational process is largely determined by the strategies, techniques, methods and technical resources used in the development of the classroom; currently, low student motivation is observed; especially when it comes to a large number of courses, and there are learning problems, becoming then, complicated to work a personalized class for better understanding and comprehension (Hunter, 2016)

This work is aimed at seeking a change at the pedagogical level, creating a trend or retaking a learning style that has existed for a long time, but has not been fully considered; turning students into pioneers, agents of change, protagonists, active subjects in their learning process, people who value the needs of the environment, seek effective solutions and help contribute to the development of society (D. Diaz, 2009)

For such reason, this work is aimed at the technical high school level, especially for accounting students, to encourage and promote cooperative learning, where everyone works together to discuss the topics learned and draw relevant conclusions, learn social and communication skills, develop together effectively in all areas of immersion, acquire knowledge and experience, help each other to achieve the goals set and develop skills that will be improved with the help and use of the eXeLearning platform as an open and free educational resource; easy access, mainly because its application does not require Internet; the software will allow educational institutions to integrate new methods, resources and use multimedia programs in educational institutions (F. Navarro & Climent, 2018).

The General Accounting module, according to the technical baccalaureate curriculum provided by MINEDUC; requires didactic strategies, team and cooperative work, innovation and research for adequate learning; allowing students to acquire and develop their competencies; working homogeneously and jointly to solve their academic tasks and cement their knowledge (Subsecretaría de Fundamentos Educativos, 2017).

The purpose of this paper is to analyze how the use of eXeLearning promotes the development of cooperative learning among technical high school students in the integrated accounting module of the Department of Education, St. Helena Province.

2 Theoretical Foundations

This section presents the theoretical and technological bases on which the eXeLearning platform and cooperative learning, the environment on which this work is focused, are based. Secondly, the types of cooperative learning are presented.

2.1 Cooperative Learning

Taking into account the cooperative learning criteria of the authors (Lata & Castro, 2016), they indicate that it is an appropriate model to guide social relations towards efficiency and positivism, with equal opportunities and quality learning; such learning with greater opportunities to acquire knowledge, balancing group activities, considering planning, reflection and implementation, improving attitudes towards others, taking into account the functional diversity of society and educational experience.

Cooperation is achieved through the following elements (Lata & Castro, 2016):

- Collaboration to organize work groups, classes, projects, courses and students.
- Adapt the curriculum to individual needs and learning activities to operate successfully in each planned curriculum.
- Conduct diagnostics to identify possible disruptions students may experience while working as a team and take corrective action to increase member effectiveness.

2.2 eXeLearning

eXeLearning is a free software, also called Exe, born in 2007; it was created by the University of Auckland, New Zealand and the Telawiti Institute of Technology; it is a program that facilitates the development of educational content and materials - learning through the Internet without being an expert or having extensive knowledge of the program; recommended for teachers, trainers and learning developers; it is currently in version 2.4.2.

The definition that considers (Navarro & Climent (2018) indicates the following: "The eXeLearning program is an XHTML editor that allows the creation of interactive multimedia resources, digital educational content and web pages without the need to know XML, HTML, HTML, JavaScript, Ajax, etc. It is especially suitable for teaching due to the iDevices (modules) it incorporates true/false activities, multiple choice, etc., and the files it allows to include when developing the resource (videos, mp3 audio or images)."

2.3 Types of cooperative learning

The authors Bará & Domingo (2017) point out that the type of learning depends largely on the strategies and techniques used in the classroom:

Formal teams: allows participants to work together for a longer period; may depend on affiliation, the scope of activities to be performed, experience acquired and developed, knowledge and skills acquired, and mutual support performed as follows:

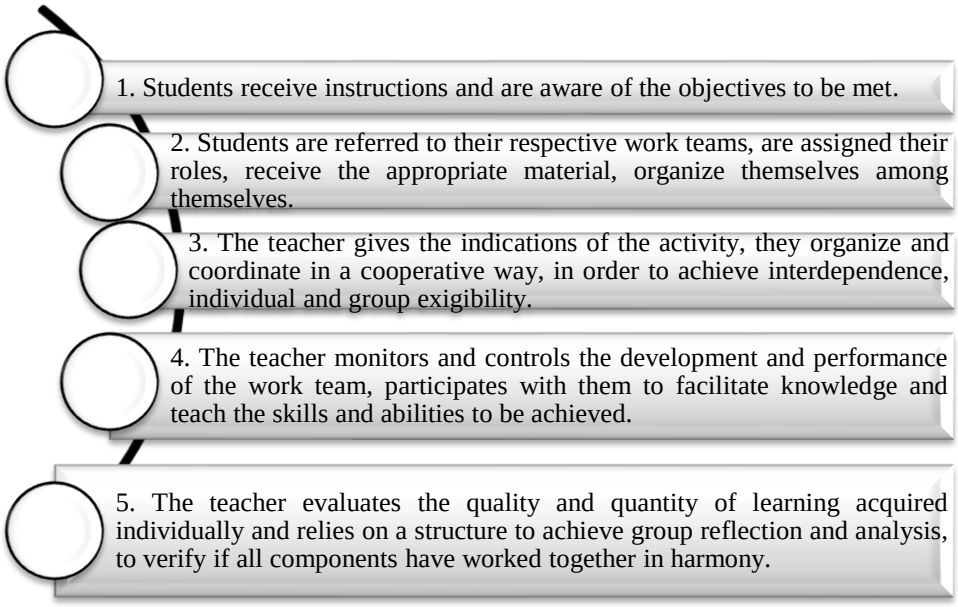

Figure 1. Execution of formal equipment.

Informal teams: come together to perform specific tasks, especially short-term assignments; may be created by students themselves or by classroom teachers.

Group activities will be monitored and controlled by teachers (tutors) who will help them to promote joint learning.

3 Materials and Methods

The study considers the Ancon Educational Unit, an educational center located on Main Avenue, part of the rural sector of the parish of San Jose de Ancon, located in the southwest of the province of Santa Elena.

The Ancon educational unit has 46 teachers, 1 psychologist, 1 psychopedagogue and 935 students. It is a two-day school with a morning and afternoon schedule and is divided into two sub-levels: Higher Basic General Education and Unified General High School, and also offers the program of Good Innovative Practices in Academic and Administrative Management and three professional figures: Accounting, Machining and Metal Construction and Computer Science.

It should be noted that the concept of “type of research” should not be seen as a simple classification; it should be understood that the so-called “types” form a continuum of “causality” in research. By defining this conceptualization, it is possible

to internalize different strategies, designs, and research procedures in each expectation or set of expectations (Lázaro & Leyva, 2013).

Descriptive research was used to conduct, develop and structure this study. “The objective is to describe the conditions, characteristics, factors and procedures existing in the phenomena and events occurring in nature without explaining the relationships identified” (Lerma, 2012).

In this case, the students of the Ancon Educational Unit were considered, knowing the characteristics of its population: age, sex, specific behaviors, socio-economic factors, and the environment in which the actors of the project developed with the purpose of detailing the necessary data and characteristics about the problem to be solved, avoiding margins of error that make the process difficult, analyzing each of the variables and their incidence in this study phenomenon.

In addition, the practical approach was used; since, as a learning strategy, it considers two variables: eXeLearning platform and cooperative learning, in search of a better pedagogical process; in this way, students will have access to a virtual platform and will adapt to it flexibly, for its content and study process that will allow the construction of their knowledge and the adoption of new learning methods, providing solutions to the different problems presented and allowing them to be more participatory.

One of the methods used in this research process is empirical, it started from a set of facts and information to later, with the help of research techniques corroborated whether they were feasible or not, first, the observation of the needs presented in the area in the various educational institutions was made; then an interview with the authorities of the institution (Rector - Vice Rector), a survey of fellow teachers and students in the area of professional accounting figure that allowed to obtain essential results at first instance.

By means of the analytical-deductive method, it was possible to establish and clarify the results obtained at the time of applying the survey to the teachers of the Accounting area of the institution, considering the most important aspects, starting from the general to the particular.

4 Discussion and Results

Having established the general aspects of this study, on eXeLearning and collaborative learning for the general accounting module of the Ancon educational unit, an analysis of the information obtained was performed. Once the data collection and retrieval process is completed, this collected information should be part of a technical process that facilitates its judgment and reasoning to produce analysis, conclusions and judgments, comments and recommendations relevant to the research; to follow and coordinate theoretical and practical bases appropriate to the problem posed and to seek effective solutions.

The analysis of results corresponds to a period of research of analytical, technical, practical and statistical origin that examines activities and transactions that tend to obtain timely, relevant and meaningful results and interpretations; with the purpose of organizing, categorizing, presenting and interpreting the information in summary form and interpreting the results about the research questions and concerns.

This research process allowed to learn the following:

- The research instruments effectively gathered the necessary information to know and measure the variables and the different criteria or characteristics of the object of study.
- Most teachers are reluctant to apply technology, resources and multimedia tools because they do not know how to use them, they demand more time, and above all, because the institution does not have the necessary resources for that, and 60% rely on the knowledge and experience they have, they are not concerned about training or self-education.
- The teaching-learning techniques used are based on experience or the traditional ones; interactivity is not applied so much to awaken the interest and enthusiasm of the students; especially to carry out a role-play, where the student is considered as an active subject within the educational process, in this way better results will be achieved.
- Few teachers have sought to innovate in the academic process to teach students, but they have realized that virtual platforms and digital educational resources have had better results.
- This study also considers the importance of teamwork to achieve favorable results in achievement. However, they are considering cooperative work as a learning style especially helpful to teach and developing the modules of the technical area and that students of the different professional figures acquire the knowledge and practice necessary for their application, considering that in the future, they will be professionals who will play an important role in society.
- The proposed platform is not very well known; teachers who teach virtual classes often use Moodle. However, when they learned that it is a free and open resource, they thought about its implementation, especially because the educational unit has 40% of students without connectivity and 70% of them are motivated to use these multimedia resources.

When comparing the work of Tomalá et al. (2020) on virtual platforms to promote cooperative learning in high school students, it is contrasted that the use of virtual platforms, resources and computer tools, their integration and application in education facilitate the fulfillment of the educational curriculum, the development of skills, abilities and competencies by students, but allows the classroom process to be more dynamic and interactive, even more so if it is merged with cooperative learning

methodology for students to dialogue, analyze and obtain competitive advantages for the execution of their activities. It also indicates that there are free platforms and others that must be canceled or the license must be purchased for their usability. The author of this work also carried out his study in the Ancon Educational Unit, but for the technical area of computer science, considering the use of a virtual platform for 6 months, in which a continuous improvement in the learning and use of the technical students in the professional figure of computer science was evidenced.

The title work of Ruiz (2019) on cooperative learning and academic performance of students in the faculty of engineering; proves and gives relevance to this research by agreeing that the current educational system wants to turn the student into an active subject within the educational process, that both students and teachers should seek self-learning, constant training, knowledge acquisition and problem-solving. However, ideally, it should be enduring in time and associate it with reality, for the generation of value and experience.

About cooperative learning, the author of this study indicates that students have a high and medium-high level of cooperative work in the classroom, which is reflected in 57%, according to the analysis of the hypotheses that he made; which is compared and emphasized in this research, since when applying a form allowed evaluating the variables: cooperative learning - eXeLearning platform and its dimensions to students, an average rating of 4.64/5 was obtained, which indicates its acceptance and easy usability.

Through the application of multimedia resources in a single virtual platform combined with a collaborative work application, the following results were achieved:

- When students were divided into heterogeneous subgroups, collaborated in the planned activities and encouraged and motivated each other to achieve the final goal, students who do not like to participate, feel confident and begin to get involved in their work, and thus began to take the course, gaining security and satisfaction.
- Each student acquires the knowledge imparted by the teacher, as well as the experience of developing the activity, later, as a whole, because not all are at the same level of learning, they begin to collaborate with the academic process of their classmates, to care for others and continue, achieving productivity and improving school performance.
- Multimedia tools and programs that promote cooperative learning include puzzles, learning together, padlet, platform resources, and forms quizzes.

5 Conclusions

This study compiles the results obtained on collaborative learning and the eXeLearning platform related to its application in the integrated accounting module through research

conducted in different primary and secondary sources to highlight the importance and feasibility of all levels of learning for high school students of the Ancon Educational Unit.

It is important to select the appropriate and opportune content, the necessary didactic materials or resources, and the methodology or learning style to develop. In this case, cooperative learning is significant for applying and analyzing the General Accounting module. Furthermore, the respective resources are to be used for its better development, especially because in the second and third levels there is a practical part that is essential for acquiring knowledge and it to last over time.

The eXeLearning tool is an educational resource proposed for the creation of content in the accounting area in a simple, fast, free way; but above all, to strengthen cooperative learning in the General Accounting module because it is an easily accessible and innovative tool that will help to improve academic results.

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