

Cooperative learning and the use of ICT as an alternative to reinforce knowledge about pedagogical models in higher education

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ABSTRACT: This research aims at proving how efficient are technological tools used in cooperative activities as an alternative resource to reinforce students' knowledge about pedagogical models in higher education. A quantitative and qualitative mix approach was employed when dealing with data obtained. For this research a sample of 18 students from higher education who belong to the English Major and observations sheets, checklists, rubrics and satisfaction survey were applied. The main drawn conclusion was that the technological resources are very effective since they give the opportunity to interact actively and they provoke in students dynamics in participating collaboratively. In addition, it was proved that students obtained better academic results.

KEYWORDS: Group Processing; Motivation; Rapport.

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Nowadays, a lot of researchers are focusing their studies on showing results about the effectiveness of methodologies use in the education field to improve the way of teaching in the classrooms as well as to ease the teaching–learning process. These resources are very valuable because they constitute a meaningful way to approach the learning process which together with visual, aural and interactive techniques make the process successful. Also letting students work in groups and produce cooperative tasks while working together to attain a goal should be considered by teachers to incorporate in their classes as well as the presence of technological resources as the priority in the classroom.

This study refers to six specific technological tools that were used in order to reinforce content of a subject titled “Pedagogical Models”. This study was conducted in a period of a semester which includes 2 terms of eight weeks each. There were 18 students divided mostly into 6 groups of three who participated in both individual and team work activities. These technological tools were selected due to the easy usage, free access, and most importantly due to different purposes aimed at creating various tasks; moreover, students obtained the training by the professor on using the tools and clear instructions were provided in order to use them efficiently.

In the beginning of each class, the professor explained the topic to be developed together with the main learning outcomes to be achieved. Besides this, observation sheets and checklists which consisted of verifying if

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cooperative elements socialized with students were applied when doing assigned tasks using technological tools. Rubrics were other instrument that helped the professor to assess the effective use of these technological tools in doing cooperative activities both inside and outside the classroom. A detailed description on how these technological tools were employed will be discussed in the following steps.

In the first class, students had to summarize the main ideas from a lecture provided by the professor and an article that students had to read at home in order to create an infogram using the tool “infogram”. Then students exposed their “infogram” to the whole class. Infographics are useful resources to communicate a message in a brief way, big amounts of information can be condensed into small fragments. By using this tool, students have the opportunity to develop their reading and writing skills, even their speaking skills in case they are asked to share information while creating their infograms as stated by Rezaei and Sayadian (2015, 78–85). This all has resulted very productive and interactive, because students foster the knowledge of the previous class while working collaboratively on their tasks.

Within the second class, students had to create a concept map with the tool GoConqr about the most relevant ideas they heard from the lecture, the forum they participated in and the notes they took from the reading of the chapter. According to Shaykina (2015, 255) when doing mind maps GoConqr students could brainstorm and practice vocabulary when summarizing ideas and using key words to add them into the nodes to create their mind maps. This tool allowed students to share the information in a creative way and all presentations revealed very attractive and obliged students to use a limited amount of words to express their ideas.

In order to reinforce the topic of the third class, the technological tool Kahoot was employed. Students created a questionnaire about the most pertinent ideas of the topic of the class. They were asked to come up with two questions based on the explanation made by the professor in class, then they were divided into two groups and had to present their questions and choose from all of them the best ten ones. The next step was to give the questionnaire code number the tool generates and ask the other group to answer it. Students found this activity very challenging and useful to strengthen subject content knowledge. As Wang (2015, 217–227) confirms Kahoot encourages students to think and respond the questionnaires through laughter, smiles and amusing comments and, it also allows them to explore and make their own content of the task and creates positive class atmosphere.

Teachers are constantly looking for information or web pages that present topics related to the content they teach in their classes, what they usually do is to store this in a file in their computers, others print it and have big amounts of documents in their own houses. There is a way to organize this information by using Symbaloo, a tool that allows teachers to customize this organization system through icons, pictures, and color-coding. As this tool stores a lot of information, teachers can also ask their colleagues and students to contribute by finding and sharing resources as mentioned by Santiago and Cardwell (2015, 63–71). Thus, the topic of the fourth class was reinforced by using the aforementioned tool. Here students had to look for five links related to the topic which they had to analyze deeply to check if the content was apt enough to be considered as part of the repository to enter in Symbaloo. Once they had all the material ready, they had to socialize one of the different resources they found. It was concluded that this tool was very attractive and caught students’ attention to be explored thoroughly.

Another useful technological tool that teachers can use is Edpuzzle, this enables them to create or find videos related to the topic they are teaching, customize it with notes, voice-overs, and open-ended questions (Povey 2016, 35–49). Students can watch the videos and answer the embedded questions that the teacher has incorporated to them; this can be assigned as a kind of evaluation or assessment for students. Teachers can later check students’ progress and give them the corresponding feedback. Therefore, this tool has been applied in the class too, here students had to insert five questions in a found video related to the topic. Once students had the video ready they

presented and shared it in the class providing with argumentative information about the questions they had included.

Google forms was the last tool used in order to reinforce knowledge students had to acquire. This tool was constantly used throughout the whole course, because after each class students had to add three questions of each topic studied in each class. In this way, they could have available and stored their own questions bank to study for the final test. All questions were first reviewed and edited by the professor to be accepted as reliable.

The qualitative approach is reflected in the answers students provided in the satisfaction survey about their perception regarding the cooperative tasks using technological tools; in the same way, the rubrics created for each of the activities allowed to gather the information for the quantitative analysis. This study confirms that the contents of the subject Pedagogical Models were effectively acquired throughout the use of these six technological tools as well as cooperativeness among students was achieved.

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