INTED 2020

14th International Technology, Education and Development Conference

2-4 March, 2020 - Valencia (Spain)

CONFERENCE PROCEEDINGS

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PEER TUTORING TEACHING TO IMPROVE LECTURES EFFECTIVENESS AND SOCIAL SKILLS

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Abstract

One of the biggest challenges of a teacher is to keep the attention of the students at maximum level during all lesson, moreover in engineering degree. The engineering student body has a technical profile and enjoys more the subjects with direct application in solving problems than theoretical subject. Researchers have analysed student concentration ability and they have concluded that they only are able to maintain the concentration for only about 15 minutes, what about the others 45 or 75 minutes of the lessons? Many methodologies have been developed to keep students motivated throughout the learning process. Peer teaching reverses roles and turns students into teacher, so students become active´ agents in their own learning process. This teaching methodology not only increase students´ motivation and performance, but also other transversal skills such as social.

Students from civil engineering take part in peer teaching methodology developed in lectures to improve the effectiveness of lecture and increase the motivation of students. At the end of the course, students filled in a survey to evaluate the methodology. The most of them not only agree that the technique increase motivation and the capacity to assimilate new concepts but also communication skills.

Keywords: peer tutoring, active learning, social skills, inclusive education.

1   INTRODUCTION

Subject with great practical load motivated civil engineering students and engineering students in general, so it is not difficult for professor to catch the attention and interest of the students. However, when they have to attend lectures with much theory it is quite hard for them to pay attention and they get distracted quiet easily. Many techniques have been developed to improve students' performance and engagement with their own learning process [1]; nevertheless, traditional learning methodology, where teacher is the active agent and students play a passive role, is still one of the most methods employed. This fact makes students get distracted in theoretical classes.

Many researchers studied the evolution of students' attention during lectures, as a result only the 33%-22% of the lesson is effective [2-6], this can be the main reason of the high level of absenteeism at lectures. Results in a recent research show that students value positively the use of active methodologies in lectures class to improve their learning process [7]. One option is peer teaching where students and professor exchange their natural role and turns students into a teacher, so students become active agents in their own learning process.

Peer tutoring teaching enable students learning by interacting and helping each other without the pressure of tutors´ judgement. If professor is able to create an atmosphere in which the student feels free to ask without being judged if he is wrong, the motivation and desire to learn of the student will increase. In this way, the generation of collaborative study group season is very useful.

Peer teaching active methodology is supported by three different theories: cognitive, motivational and social [9]. From cognitive point of view, students develop their own learning strategy which help them to retain better the information. As they feel responsible of their own learning process and their classmates´, their motivation about the subject increases. Moreover, due to the interaction between students, they improve their communication and social skills. Therefore, peer-teaching methodology not only improves performance in acquiring new knowledge, but it also allows developing other important skills in the work environment.

Professors of theoretical subjects of civil engineering are aware of the concentration problem of students. With the aim of improving lecture effectiveness, they implemented peer-teaching methodology

3 RESULTS

Data collected in Table 1 shows a great level of absenteeism in lecture class; the attendance is 85% in Structures Technology and only 25% in Transport Infrastructure. These results show the need of gaining the attention of students and one way can be the use of peer teaching methodology. As it has been mentioned before, the implementation of peer teaching methodology supposes a great effort that may be students do not value. This is why, this year professors decided to make a simple trial and implement the methodology only in two lessons in different subject; the objective is to get students impression and analyse the viability of it.

After the application of the methodology, students were asked to fill in a survey in through an e-learning virtual platform. The number of responses is not quite significant, this can be because the survey was free access for students and perhaps they did not feel themselves forced to fill in it, moreover the students where on exams period and they may do not pay enough attention to it.

Figure 1 shows the results of the whole survey, considering both groups. Although the level of interest in the methodology is not great (only 30% of them are agree or strongly agree) up to 75% agree or strongly agree that the methodology serves to assimilate new concepts and increases the active participation; the 80% are in agreement with the utility of the methodology for self-evaluation and for thinking more about subject content.
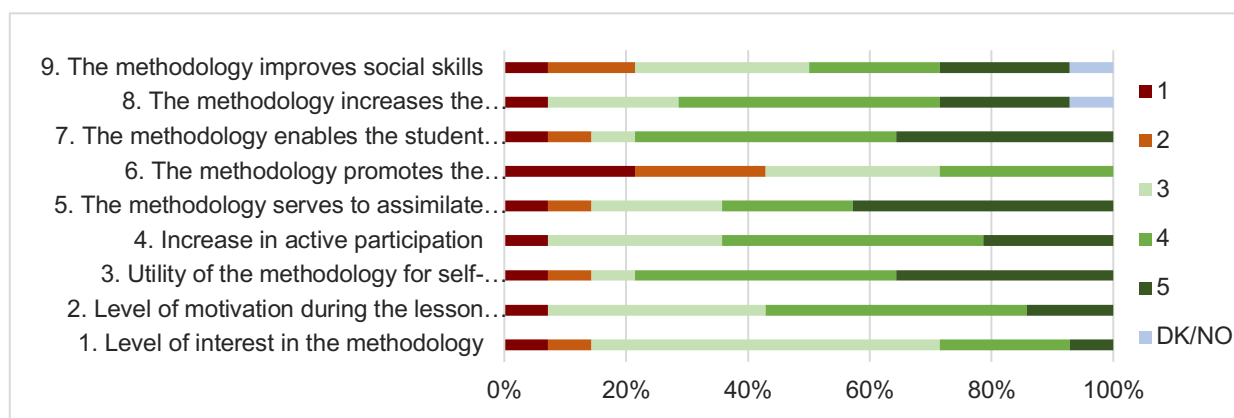

Figure 1 Survey results.

4 CONCLUSIONS

Despite of not having a great number of surveys, the results are quite significant. Although the interest in the methodology is not high, students support the methodology for self-evaluation and for assimilating new concepts. Moreover, social skills are improved and they think that the methodology improves not only the active participation but also students` confidence.

The students` opinion encourages teacher team to continue with the implementation of the methodology for next years.

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