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Editorial: Flipped classroom or flipped learning in health professionals' education

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Editorial on the Research Topic

Flipped classroom or flipped learning in health professionals' education

The set of rapid and profound changes that the education of health professionals is experiencing has generated an important transformation in the ways of understanding and developing teaching and learning processes in universities. These changes are producing, in turn, a profound reconceptualization of teaching, compelling professors to adopt and implement novel teaching–learning strategies. The flipped classroom is one of them.

The flipped classroom as we know it is evolving, from the understanding of changes in structures that allow changes in the use of time and space to a concept that allows the creation of more than that: a student-centered experience. In this topic, there are studies conducted on undergraduate and postgraduate students and on disciplines or specific contents (de Vries), comparing approaches (Li, Cao et al.; Baysan and Naeem) or resources (Li, Tang et al.). This represents that we are moving from standardized methods such as case-based learning or team-based learning to free-to-experiment models that maintain the core principle of active learning.

In de Vries' text, a heterodox flipped classroom method has been used to teach the four most common basic methods of protein detection in the teaching of molecular cellular biology. Before class, students received instructions in a short 17-min clip with PowerPoint slides about the purpose of the flipped classroom. In addition, they were provided with a video about the various protein detection techniques and a conceptual map with the different terms involved. Groups of six students were formed for each of the techniques, who had to complete an incomplete PowerPoint presentation of the assigned technique. In class, each group, called the “expert,” gave their 20-min presentation to the rest of the class, called the “receivers.” The author states that in the exam to evaluate the learning of the techniques, no significant differences were observed between the “experts” and “the recipients” for any of the techniques, which suggests that the learning of the experts was as good as the learning of the receivers.

Li, Cao et al.'s work has studied the effect of the flipped classroom combined with case-based learning in the subject Introduction to Environmental Health Sciences of a

master's degree in Public Health. An experimental study was carried out. A control group received traditional teaching (focused on the subject matter and oral presentation), and an experimental group received flipped classroom combined with case-based learning. To compare the effects of both methods, academic performance data in the same exam were analyzed, and a questionnaire designed by the authors was used, only for the experimental group. The results indicate that the score on the final exam was higher in the control group than in the experimental group, while in the design question, the score of the experimental group was higher than that of the control group. There were no differences between the two groups in the score of the final work. Although the authors indicate that the flipped classroom together with case-based learning is a more appropriate method than the traditional teaching method, the data presented suggest more cautious conclusions. In any case, the satisfaction rates with the methodology used among the students in the control group were high, and this is a limitation of the study, that the data from the control group are not presented.

Li, Tang et al. analyze the effects of a microvideo-based flipped classroom teaching model on the standardized training of dermatology residents. Also with an experimental design, 39 residents (experimental group) received teaching through the flipped classroom method using microvideos, and 39 residents (control group) received traditional lecture-based teaching. In this article, you can see an adequate and orthodox flipped classroom approach close to that of Just-in-Time Teaching (Novak and Patterson, 2010), which, according to the results presented by the authors, is a significantly more robust and effective method than traditional one-way teaching. These results corroborate the extensive evidence available about the pedagogical effectiveness of the flipped classroom approach.

Baysan and Naeem's article presents a qualitative study that sought to investigate the perceptions of third to fifth year undergraduate dental students about the formats of classes in online and face-to-face lectures and their effectiveness in the students' learning experiences. The participants were asked to answer two specific questions, with additional questions in free text. Of the 221 undergraduate dental students, 120 participated in the study between October 2019 and February 2020, and 42 included the comments in free text. The authors identified three central themes related to learning: scheduled vs. recorded lectures, length of academic lectures, and neurodiversity and learning experiences. The results showed that the students perceived the traditional didactics in the format of lectures as the least effective. In addition, the authors note that there is no one-size-fits-all lecture format that addresses students' neurodiversity and suggest hybrid lectures combined with online teaching and small group tutorials.

The aim of this Research Topic was to provide evidence-based contributions to amplify the flipped classroom model in health professionals' education. What we see in these studies and in others are feedback of satisfaction, engagement, and motivation that the flipped classroom brings. However, as acknowledged by the authors, these studies present only one case, are limited in size, and have a one touch point approach.

The future of this research area depends on what we want to achieve. If this is sharing experiences, strategies, or hacks, we are on track. In fact, it is necessary to open the black box and share with other educators how the flipped classroom is done. However, considering the miscellaneous models and methods available, perhaps this could be not enough, considering that there remains a lack of evidence that flipped models are in fact a viable solution to the challenges of competencies development required in health professional training.

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References

- Novak, G., and Patterson, E. T. (2010). "Getting started with JITT" in *Just-in-Time Teaching: Across the Disciplines, Across the Academy*, eds S. Simkins, and M. Maier (Sterling, VA: Stylus Publishing). 224.