The flipped classroom model: a challenge for student-centered teaching

Javier Tourón

Universidad Internacional de La Rioja (UNIR)

The proposals for changes and improvements in the education system are becoming more and more evident, as technological developments become more accessible due to their cost and simplicity of operation, it is true that they are not always based on evidence. Actions that are common today were unthinkable just a few decades ago; personal computing broke out in the eighties although in a very rudimentary way for the current standards; mobile devices are very recent, the possibilities of eLearning or mobile learning are almost unlimited. The current economic circumstances have only catalyzed this movement towards change and improvement.

But I do not think that change is necessary because health circumstances demand it. Change is necessary because the nature of the learning outcomes we need are different than in the past. It is no longer enough to know or memorize certain contents no matter how complex they are. Now, more than ever, it is necessary to know how to think deeply and creatively, to develop the critical capacity and the ability to solve problems, to know how to work in a team, to communicate effectively, to be technologically literate, etc., without diminishing the importance of knowing that one must embrace as a priority the know-how. This "new nature" of learning is not possible with an expository model, centered on the teacher, because one only learns by doing. It is the classic learning by doing, which reminds that maxim of Aristotle (free translation): "To know what we want to do, we must do what we want to know."

Digital technologies are new, we could say, and are growing exponentially, with trends that point to adaptive learning, artificial intelligence, learning analytics, virtual environments (immersive or not),

holistic, the development of open educational resources increasingly interactive, multimedia and sophisticated, among many others (Cf. Horizon Report, 2020).

Educational technology is not so technological; we can mention some approaches such as Mastery Learning, proposed by Bloom in 1968 (Cf. Bloom, 1968; López, López, 2006); learning based on projects, problems or challenges (Cf. Schmidt, 2012; Cator & Nichols, 2008; Duch, Groh & Allen, 2001), Just in Time Teaching [JITT] (Mazur, 1997) and many others that have decades of study and research behind them, with proven effectiveness in many cases. Sometimes they have been proposed from the perspective of pedagogical reflection, other times from the perspective of educational practice. All of them have, as the reader will recognize, a common denominator: To activate the student and make him/her go from being a patient subject of a task carried out primarily by the teacher, to being an agent subject, the protagonist of his/her own learning. Therefore, they are often referred to generically under the label "active methodologies", and are placed under an inductive conception of learning (Cf. Tourón and Martín, 2018)

But what has changed over the years? In my opinion, the development of digital technology now makes it possible to implement methodologies that, until now, were difficult to apply and scale by merely analogical procedures. Thus, pedagogy (or educational technology, as you wish) and digital technology: The noun and the adjective in this process of learning and teaching, are interwoven to make possible the apparent utopia of education and learning centered on the student and not on the teacher. Personalized learning, in short.

This is the case of the monograph that I now present, centered on an approach, a model or meta-strategy, as you wish, that has been called in different ways in Spanish; in two ways, mainly, in English: flipped learning or flipped classroom (see https://flglobal.org/ and https://flippedlearning.org/).

Flipped learning, which "is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space. As a result, the group space is transformed into a dynamic, interactive learning environment in which the educator guides students as they apply concepts and engage creatively in the subject matter" (Cf. https://flippedlearning.org/).

Thus, the roles of both change; as the Saxons say, the teacher stops being "the sage on the stage" to become "the guide on the side".

This approach, which is reviewed here and in some detail in the various works included, has been applied in different contexts, environments and educational levels: face-to-face, online, in non-immersive 3D virtual spaces, etc. In all of them a common denominator can be perceived: A greater involvement of the students in their learning, more satisfaction, better motivation... in short, a preference for action over exhibition.

However, it would be naive, even puerile, in my opinion, to think that these so-called active approaches should replace the masterly and erudite exposition of an expert, or the deep learning that comes from study as "the occupation of the understanding with the concepts, the presence of these in the consciousness" (Cf. Tourón, 2017). I understand that the question to be asked, for example, is: Masterly lesson, what for? That is to say, that each objective, each learning result, requires a certain approach and none of them can claim the capacity to serve to effectively promote any type of achievement. What I want to point out is that we must seek complementarity of approaches, appropriate to the diversity of results we seek. It is not a question of confronting methodologies, but of using each one in what it is most effective for.

The reader can find in these works that are gathered here a panorama of actions and results that we hope will inspire them to improve the learning and teaching process wherever they work, and to seek the best evidences that will consolidate educational practices appropriate to the needs of each moment.

I want to thank you all the authors for their effort and contribution to this issue. And to the Editor-in-Chief of *Revista de Educación* for providing us with this space for the dissemination and improvement of research in the field of education.

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