Review of models for evaluating quality in educational innovation

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Abstract: This paper reviews existing models for assessing quality of innovation in university education. It analyzes the common and the differentiating elements. The review of the models and theoretical approaches is made in terms of the dimensions and indicators they propose. The final goal is to reflect on and explore new conceptual models that offer opportunities while, at the same time, identifying some of the limitations in educational innovation.

Keywords: innovation – teaching – evaluation – quality – teacher training

1 Introduction

Recent years have seen an increase in the number of projects on teaching innovation in centers of higher education. The concept of innovation embraces many terms, processes or types of projects that seek solutions to the problems and needs of the university community in the challenging context of today's constantly changing world. There are also models and protocols that seek to evaluate the various experiences and innovation projects that use a series of quality indicators to measure impact and to analyze how applicable they are.

Many authors have highlighted the importance and the need for frameworks and tools to collect and present evidence of quality in educational innovation, while also promoting expert assessment (Mauri, Coll, and Honrubia, 2007, Fidalgo, Sein-Echaluce, Lerís, and García-Peñalvo, 2013; León and López, 2014; Guerrero Romera, 2017). The models need to be analyzed critically in order to identify those projects and actions of teaching innovation that may be considered to be good practices and hence be in a position to value how applicable and transferable they are for improved sharing and transfer of innovation.

2 Models for evaluating teaching innovation

Many authors have expressed concerns not only about the range of innovation actions but also about the difficulties of their gaining recognition. These concerns together with an absence of assessment indicators have been referred to as obstacles to innovation even if many of them are promoted by universities (Fidalgo, Sein-Echaluce, Lerís, and García-Peñalvo, 2013; León and López, 2014).

Mauri, Coll, and Honrubia (2007) drew attention to the difficulties in assessing the quality and effectiveness of innovative teaching practices when there are no suitable reference frameworks available. León and López (2014) add that these innovations receive little consideration when evaluating teaching quality. They highlight other factors, such as excessive teaching load, overcrowded classrooms or sheer lack of time, which do not only not favor innovation, but may even have adverse effects for quality and effectiveness and, therefore, diminish their impact. So, as Bolívar and Bolívar state (2014), it is important "to respond to challenges like the need for assessment and innovation".

A review of some of the studies cited that evaluate the practices and projects of teaching innovation reveals that there is a wealth of proposals based on identifying dimensions and indicators. The aspects which receive special emphasis are sometimes different. Some of these are reviewed below.

Ortega et al. (2017) present a model with 12 criteria to evaluate teaching innovation processes. These criteria are: diversity of agents, collaborative culture, creativity, novelty, intentionality, anticipation, internalization, systematization, relevance, depth, orientated toward

improving results, and permanence. Mauri, Coll, and Honrubia (2007) drew up a proposal that included five dimensions: Coherence in the design of the innovation proposal and the teaching quality criteria; Development of joint activities between teachers and students; Development of autonomy and self-regulation of student's learning; Cooperative work; Use of ICTs.

León and López (2014) developed a protocol to evaluate the stages of the design, development, implementation, evaluation and management of innovation projects, and they proposed a set of criteria that were grouped into ten dimensions of interest for managers of institutions and professionals involved in teaching innovation processes. López, Hinojosa and Sánchez (2014) took this protocol as their starting point and prepared a tool of six dimensions and thirty-eight criteria: aims of the innovation; subjects of the innovation; design, development and evaluation of the projects; and the impact of the teaching innovation.

Elsewhere, we have the model of Fidalgo et al. (2013), which established a series of indicators to classify or measure the degree educational innovation. This model contained a series of general and specific indicators that represented what was called the chain of value of an innovation, and included motivation, characteristics, development, results (processes, resources, methods) (context, impact, characteristics) and divulgation/accreditation.

Another recent work on the evaluation of innovation projects is Escala i, a reference framework for the evaluation of educational innovation and projects and works by the Monterrey Institute of Technology and Higher Education (López Cruz, and Heredia Escorza, 2017). It presents an evaluation scale based on five criteria: learning outcomes, nature of the innovation, growth potential, institutional alignment and financial viability. The scale focuses on the impact of the projects and is heavily oriented toward improvement and educational change. The model focuses mainly on the outcomes and the nature of the innovation and on the institutional dimension, and identifies three sub-criteria.

Finally, Guerrero Romera (2017) draws on a review of the scientific literature and of the criteria and experience in management of calls for projects and prizes in university teaching innovation to present the Assessment Model e+iDu, which includes 33 criteria grouped into 3 dimensions and sub-factors: Context (Characteristics of the design of the projects and actions in educational innovation and Management of calls for innovation); Application-Learning (Methodology, Learning and Evaluation); and Visibility-Dissemination of Teaching Innovation.

The models presented advocate the importance of analyzing assessing the quality of university education innovation practices and projects. Experts agree that there already are some quality projects, but not enough. The proposals coincide in some of the criteria for assessing the impact and outcomes of the innovation practices and processes, and they all emphasize the importance of advancing further in the assessment of their quality.

Some of the studies mentioned focus on assessing management of innovation projects and their quality, during their design, development, implantation and evaluation, from the perspective of those involved (León and López, 2014). Others provide criteria to assess the innovation processes (Ortega et al., 2017). Still others focus more on assessing the impact of the innovation on the quality of university teaching (Mauri, Coll, and Honrubia, 2007) or they establish indicators to classify, or measure, the degree of educational innovation in experiences conducted by teachers that can be considered as examples of good practice (Fidalgo, Sein-Echaluce, Lerís, and García-Peñalvo, 2013).

The proposals coincide to some extent in their specifications of aspects related to the institutional dimension and the dissemination of an innovation. The model of López and Heredia (2017) specifically considers and focuses on institutional alignment. Elsewhere, the model of Guerrero Romera (2017) deals mainly with aspects related to visibility and dissemination of innovation projects and actions. It includes aspects of transferability and communication or divulgation, such as the possibility of transferring the new knowledge and the products arising from the experience to other learning contexts (internal and external), the importance of the results, the materials generated - contributions at congresses, seminars, papers, publications - and the dissemination of the experience or project, the establishment of practice and professional communities, participation in workgroups and networks, in forums and discussions for collaborative work and for sharing the aspects necessary for teaching

innovation. In any case, all the models show the importance of advancing further in the assessment of processes and projects.

3 Conclusion

Studies on quality assessment of innovation processes in education coincide in the need for further advancement in the preparation and validation of tools to evaluate these processes and practices and their impact on the quality of teaching. A wide range of models and proposals advocate a variety of dimensions and indicators to meet different circumstances. There is also a clear difficulty in the teaching innovation's gaining recognition, as well as lack of assessment indicators. These have been cited as obstacles to innovation.

Various authors have referred the importance and the need for frameworks and tools to collect and present evidence of quality in teaching innovation actions, along with the importance of fostering expert assessment and mutual learning through sharing experiences (Mauri, Coll, and Honrubia, 2007, Fidalgo, Sein-Echaluce, Lerís, and García-Peñalvo, 2013; León and López, 2014; Guerrero Romera, 2017). All of this will facilitate assessment of the applicability and transferability of innovations and enhance their dissemination and visibility.

There is also a need for an integral and accepted model that can be used by all interested parties (managers, teachers, students, support workers, university governance teams, etc.) in the light of the dearth of existing proposals. We should, therefore, explore new models and criteria that are more appropriate and up to date so that innovation really does lead to better student learning and an overall improvement in the university community.

The above could prove to be especially interesting for teacher training, insofar as it will become possible to identify areas in need of improvement and training and employ new more open and collaborative training models which focus more on creating scenarios and learning experiences to reinforce professional identity. The final aim has to be the establishment of guidelines and quality standards that assess the level of impact and the quality of innovations. Only then will we be able to evaluate the results and processes generated and learn how to improve by sharing knowledge (bench learning) sand so enhance quality and improvement through good practice guides, mechanisms for transferring innovation and the like. It is vital, too, to pinpoint good innovation practices, since these can be used to design research projects on innovations that can be adapted to students' learning needs (León and López, 2014). To paraphrase Severo Ochoa, it is an innovation that is more about minds than means, so we need to think if we wish to construct. To do this we have to assess what we are doing at the moment and whether it has a real impact on improving our students' learning and on the transformation of teaching and educational practices.

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