

Exploring the Barriers of Educational Innovation

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Abstract

The study of innovation has been thoroughly investigated over the past five decades by many researchers and organizations. Educational innovation, in particular, has been studied since the 1970s more systematically. Educational innovation, its adoption and implementation have been studied not only by various researchers, namely Fullan, Westera, Cohen & Ball, but different organizations, such as the Organization for Economic Cooperation and Development (OECD) as well. However, its implementation constitutes a very demanding task. This paper addresses the most crucial suspending factors that may hinder innovation implementation in education through recent and older literature review. The findings of our study include factors that are related to educators, parents, students and the educational context in general. This paper is part of a doctorate dissertation which is currently in progress.

Key words: educational innovation, innovation barriers, innovation adoption.

Introduction

Innovation, as Rogers (2003) claims, is an idea, practice or product which is perceived as something new by any individual or institution wishing to adopt it. International scientific dictionaries attribute the term innovation the meaning of the introduction of a new idea, method, technology or product. Oslo and Frascati manuals describe innovation as a process which leads to the creation of new products and methods or the improvement of those already existing. The

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OECD and Mitchell (2003) adopt a similar approach to the definition of the term of educational innovation. Educational innovation, in particular, is defined as the implementation of new and upgraded ideas, methods and knowledge.

Educational innovation can be gradual when entirely educational and organizational changes take place (Westera, 2004). Previous studies revealed that educational innovation should not be identical to educational reform or change that has not undergone new or improved ideas, methods or practices (King & Anderson, 2002). In addition, according to Fullan (1991) and Dakopoulou (2008), implementation of new instructive approaches as well as the use of new instructive means that are conducive to the development of new attitudes as regards education, constitute educational innovation. It is, therefore, evident that the term does not reflect any educational change, but the adoption of novel or enhanced methods and technologies.

Another point that is worth mentioning is that innovation is not a fact but a process and it should be approached as such with a view to its effective diffusion (Spyropoulou et al., 2007). This is, undoubtedly, no easy task, given the fact that it is dependent both on the institutions adopting it and the context in which it is diffused. This study examines the factors that negatively affect the diffusion of educational innovation along with the way novel or enhanced practices and technologies are faced by educators and institutions where educators work.

Educational innovation and factors inhibiting its adoption

It is common sense that the teachers and the learners are the protagonists of the Educational Innovation Process and consequently of the Educational Innovation Process. Hinostroza et al. (2010) agreed with prior studies e.g (Barber and Mourshed., 2007) on the crucial role of teachers for the innovation's implementation. Specifically they state that teachers should have the ability to

develop and apply the appropriate knowledge for problems solving and the necessary communication skills in order to prepare the learners for the knowledge society.

However we don't have to underestimate the significance of the learning environment and the learning methods and their impact on the evaluation of education and specifically on the educational innovation. Kearney et al (2016) evaluated the classroom climate and its effect on academic activities and support that the classroom climate analysis contributes in the development of positive relationships within the learners and teachers. Troussas et al., (2020) applied Artificial Neural Network and the Weighted Sum Model in order to develop and test on intelligent tutoring system based on the collaborative learning styles recommendation.

In addition, new learning methods enhance the educational process and become a part of educational innovation. Troussas et al. (2020) observed that mobile learning and game based learning advance the knowledge level of students. Shulman and Shulman (2004) argued that the Vision, the motivation and Understanding, the practice, the reflection, the community constitute necessary characteristics for teachers who are oriented to the innovation.

According to literature review, educational innovation constitutes the development and adoption of novel or enhanced tools and technologies in education. Indeed the need for ongoing improvement in education is interrelated with the search and introduction of innovations in educational systems. The contribution of innovation to education is significant, as OECD report in one of their studies, for numerous reasons. First and foremost, it can underline the value of education and, in particular, be conducive to the improvement of pedagogic outcomes and the quality of education. It can further expand knowledge accessibility and benefits of pedagogic outcomes with the aim of facilitating the adjustment of educational systems to meet the demands

of an ever-changing society. The need for continuous improvement is closely connected to the quest and introduction of innovation in educational systems. The development and implementation of educational innovation is a very demanding venture, though, as mentioned in recent and past papers.

Cohen & Ball (2006), who studied the barriers in the implementation of educational innovation, report that the designers and users are involved in the innovative process, thereby focusing their study on them. Evers et al., (2002) also focus their study on educators, whom they view as users of innovation. Cohen & Ball (2006) added a few more to those involved in the process, namely those who adopt innovation and specific legal entities, such as schools, federal services and states. They also claim that the adoption and use of innovation are two very different things and the more complicated innovation becomes, the greater their difference. Our study mainly focuses on educators, who constitute the users of innovation in education, as they are the ones to implement any innovation in the educational process, either because it is required by educational institutions or due to the fact that implementation of such innovative processes is part of their options and initiatives.

Lack of adequate experience in implementation of innovation, lack of preparation for implementation on behalf of the teachers or lack of time on behalf of the educators to exchange ideas on the implementation of an educational innovation were the basic barriers in the implementation of an educational program in Holland, according to Evers et al., (2002). The educators who took part in the program were faced with some problems, which adversely affected the effectiveness of the program, and were primarily attributed to the psychological syndrome of exhaustion faced by some educators to a certain extent at some point in their careers because of the pressure felt to perform their duties. Another interesting finding by Evers et al.,

(2002) was that the older the teachers, the greater the emotional exhaustion they suffered from, despite their extensive experience. This was due to the implementation of innovation, which was a tremendous change to them. The negative attitude to the implementation of the innovative program resulted in the teachers' low self-esteem, which in turn, made them resort to traditional teaching practices.

Lack of motivation, according to Cohen & Ball (2006) is another factor that may contribute to the ineffectiveness of innovation implementation. On the contrary, motivating teachers could reduce their resistance to change, which, as previously mentioned, may be linked to excessive stress felt after any change in the educational process. Cohen & Ball (2006), though, maintain that the failure of innovation implementation is the result of ineffective organization as well as the complexity and heterogeneity of the educational context the innovation is aimed at. They continue saying that the different contexts of educational innovation can influence the design and diffusion of innovation, and that motivation for the adoption and implementation of educational innovation is inextricably connected to school success. The aforementioned factors that inhibit successful implementation of innovation are primarily related to educators. However, the role of parents, who indirectly participate in the educational process, cannot be disregarded, especially for pre-school and primary education.

Heich (2017) reports that the fact that nowadays both parents contribute financially to the family budget, as opposed to the past, has influenced parents' attitude to the introduction of educational innovation. In fact, parents are fully acquainted with educational methods they used when they were students, and due to lack of time and overloaded schedules, they are suspicious of novel educational methods, cannot understand the changes they could bring about and discourage their children from accepting their implementation. Heich's words: "if parents don't

buy'', then children will also face innovation negatively, is characteristic of how parents negatively influence implementation. No matter how important the parents' role is, however, the decisive factor for the implementation of educational innovation is the teachers' attitude (Morris, 1985).

More specifically, Hurst (1978) mentioned that availability of information for innovation, users' willingness, sustainability and resources for implementation of innovation, consequences, cost, efficiency and potential pilot test of innovation are the fundamental criteria for users of innovation to decide whether they will go along with its implementation or not. The cost criterion was introduced by Doyle and Ponder (1977) along with the conditions of different classes and effectiveness of their function. The degree of effectiveness of an educational innovation is related to the degree of meeting the needs of society (Long, 1973) as well as the degree of understanding those needs and finding alternative solutions (Karmel, 1973).

Cohen & Ball (2006) attribute the failure of implementation of innovation to their design. They believe that lack of meticulous design is a suspending factor. Another barrier to innovation is the inappropriate environment for implementation and this is something to be taken into consideration during the planning stage. Nevertheless, apart from the design, the designers' systematic support as well as the development of strategies that render innovation self-preserved, are equally important. To add to that, the problems of implementation should be examined and modifications should be made whenever required.

It is clear that the environment, teachers, parents and designers can pose potential barriers to innovation or positively contribute to its implementation. Yet, students should also be taken into account in the design stage (Evers et al., 2002), as they are the recipients of innovation and should accept it. It is blatantly obvious, therefore, that what may constitute a barrier in

implementing educational innovation can be overcome, on condition the designers and promoters of innovation take all the factors which may prove inhibitive to its implementation into account. The study of these factors should take place during the planning stage, so that there is ongoing assessment of the implementation process and the possible problems associated with it be instantly dealt with.

Teachers' exhaustion, teachers' and parents' lack of time and their reaction to change, appropriate parents', students' and teachers' information, stress caused by changes to teachers, parents and students, environment and resources necessary for implementing educational innovation, as well as the usefulness of every innovation to users should be an indispensable part of the planning stage and seriously considered by those adopting it.

Conclusion

This study attempted to pinpoint the barriers posed in implementing educational innovations, whether they are related to technology or the introduction of novel or enhanced educational methods and tools. Looking into the literature we focused on the key factors of the learning process. Teachers and learners have the most important role and they participate in the educational procedure which takes place in the learning environment. Many years ago we located the school as the environment of the learning procedure.

However today, the new technologies developed on intangible environment based on the internet technologies. In this study we observed that the barriers of educational innovation development are related with the teachers and learners and also with environment and technology. As we conclude from the prior and recent literature the lack of willingness and vision for communities learning prevents the innovative prospect of educational process.

Moreover the inadequate training in new technologies blocks the innovation at learning methods which are based on information technologies. Learners and their parents – for young pupils- can be also a barrier of the orientation to innovation if they are not familiar with new technologies. Regarding the environment, no technological innovative teaching methods could be expected in a non appropriate equipped educational environment.

Future research will further examine the use of information technology as a tool for the diffusion of educational innovation and will focus on the contribution of ICT to the implementation of educational innovation and the creation of dynamic learning environments.

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