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Artículos científicos

Dificultades para la institucionalización del aula invertida

Difficulties for the Institutionalization of the Flipped Classroom

Dificuldades para a institucionalização da sala de aula invertida

Alexandro Escudero-Nahón
Autonomous University of Queretaro, Mexico
alexandro.escudero@uaq.mx
https://orcid.org/0000-0001-8245-0838

Ricardo Chaparro Sánchez
Autonomous University of Queretaro, Mexico
rchapa@uaq.mx
https://orcid.org/0000-0002-6842-2360

Resumen

Este ensayo reflexiona sobre los factores que impidieron que el aula invertida se institucionalizara como estrategia educativa en una universidad pública mexicana tras el periodo de confinamiento. Teóricamente, el aula invertida goza de una alta aceptación entre la comunidad educativa; así lo demuestran los cursos de capacitación y las encuestas de autopercepción al respecto. Sin embargo, su correcta institucionalización implica una transformación sensible en la práctica docente, en los procedimientos institucionales y en la cultura del aprendizaje. *Institucionalización* significa orientar personal especializado, presupuesto y normatividad para que cierto proceso educativo se incorpore al funcionamiento de la universidad y sea estable a través del tiempo. Por lo anterior, hay altos riesgos políticos para las autoridades educativas, quienes deben conducir esta institucionalización. Como conclusión, se destaca el hecho de que, en el caso de institucionalización descrito en este ensayo, la principal resistencia para institucionalizar este modelo desde un punto de vista estratégico la presentaron los docentes. Todo lo anterior abre la posibilidad de inaugurar una

línea de investigación que estudie los factores de resistencia que condicionan la institucionalización de estrategias educativas innovadoras en las instituciones.

Palabras clave: aula invertida, contingencia sanitaria, educación superior.

Abstract

This essay reflects on the factors that prevented the flipped classroom from being institutionalized as an educational strategy in a Mexican public university after the period of confinement. Theoretically, the flipped classroom enjoys high acceptance among the educational community; this is demonstrated by training courses and self-perception surveys in this regard. However, its correct institutionalization implies a sensible transformation in the teaching practice, in the institutional procedures and in the culture of learning. Due to the above, the political risks for the educational authorities, who must lead this institutionalization, are very high. As a conclusion, it stands out that, in this case, the main resistance to institutionalize the flipped classroom as a strategy for reintegration into face-to-face classes was presented by the teachers. All of the above opens the possibility of inaugurating a line of research that studies the resistance factors that condition the institutionalization of innovative educational strategies in institutions.

Keywords: flipped classroom, health contingency, higher education.

Resumo

Este ensaio reflete sobre os fatores que impediram a institucionalização da sala de aula invertida como estratégia educacional em uma universidade pública mexicana após o período de confinamento. Teoricamente, a sala de aula invertida goza de grande aceitação entre a comunidade educacional; Isso é demonstrado por treinamentos e pesquisas de autopercepção a esse respeito. No entanto, a sua correta institucionalização implica uma sensível transformação na prática docente, nos procedimentos institucionais e na cultura da aprendizagem. A institucionalização significa orientar pessoal especializado, orçamento e regulamentos para que um determinado processo educacional seja incorporado ao funcionamento da universidade e seja estável ao longo do tempo (Escudero-Nahón, 2017). Portanto, há altos riscos políticos para as autoridades educacionais, que devem liderar essa institucionalização. Como conclusão, destaca-se o fato de que, no caso da institucionalização descrita neste ensaio, a principal resistência em institucionalizar esse modelo do ponto de

vista estratégico foi apresentada pelos professores. Tudo isso abre a possibilidade de inaugurar uma linha de pesquisa que estude os fatores de resistência que condicionam a institucionalização de estratégias educacionais inovadoras nas instituições.

Palavras-chave: sala de aula invertida, contingência em saúde, ensino superior.

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Introduction

Due to the 2019 coronavirus disease (COVID-19) pandemic, approximately 2 billion students were affected by school closures worldwide (United Nations Educational, Scientific, and Cultural Organization [Unesco], March 24, 2020). This meant that around 99.9% of the student population had to solve educational problems for two years through emergency remote teaching (International Institute for Educational Planning [IIEP], February 8, 2022). In Mexico, approximately 41 million people were affected, a figure that makes up the national education system. Approximately, the usual educational activities of 5,300,000 people were suddenly disrupted (Secretaría de Educación Pública [SEP], 2020b). But, in addition, teachers and educational authorities had to deal with the challenges imposed by emergency remote teaching because there were no continuity plans for educational services (Vicario, 2021).

Education service continuity plans are documents developed by the community, and are intended to provide a timely, institutional, and adequate response to any contingency that threatens regular education. In a broad sense, they fulfill the social responsibility of guaranteeing quality education and safety for the community. Its value lies in the fact that they offer teaching, learning and evaluation guidelines during periods of crisis or emergency, as well as safe, gradual and voluntary logistics in periods of return to educational normality (Vicario, 2021).

Given the lack of clear and precise educational guidelines from the authorities, teachers were forced to hastily reformulate their teaching practice, the way of carrying out school administrative procedures and the evaluation criteria, among other activities (Klusmann, Trippenzee, Fokkens -Bruinsma, Sanderman and Schroevers, 2022). The foregoing meant sudden economic and emotional wear and tear: it was necessary to obtain software licenses, update hardware, self-train, manage work-related tasks at home, and adapt their educational strategies (Cranford, 2020; Iglesias, Hernández, Chaparro, & Prieto, 2021).

Thus, a series of tensions arose between educational institutions, their teachers and the families of the apprentices (Escudero, 2021; Kabilan and Annamalai, 2022).

However, the positive side of this uncomfortable situation was that in a few months what had not been achieved for decades in reference to the incorporation of digital technology in formal educational processes was achieved (Xu, Jin, Deifell and Angus 2021). For example, after almost 50 years of meager results from public policies on the promotion of educational technology in Mexico (SEP, 2020a), as of 2020 a wide use of several digital applications expressly designed for learning was catalyzed, and many others suitable for learning. to this end. In short, thanks to the commitment, responsibility and creativity of the teachers, it was possible to contain the Mexican educational debacle during the pandemic. (Lytras, Serban, Torres, Ntanos y Sarirete, 2022).

Various studies agree on the fact that the most used digital applications, such as videoconferences, information management services in the cloud or knowledge management platforms, were well accepted by the learner and the teaching staff (Dzandu, Pathak and de Cesare, 2022; Guarino et al., 2022; Kang and Park, 2022; Menon, 2022; Saura, Ribeiro and Zegarra, 2022). Even after the period of social confinement, such applications have been included in traditional face-to-face education (Hamadi, El-Den, Azam and Sriratanaviriyakul, 2022; Suzylily and Lim, 2022). In fact, this mixture and spontaneous incorporation of digital applications in traditional educational models is already eroding the usual definitions of educational modalities (Escudero, 2019). In some cases, the intensive use of digital technology after the period of confinement is guiding considerable changes in the educational modalities that were once impervious to this purpose.

That same literature warns that the use of digital technology could be entertaining; even if teachers and students have gained instrumental mastery in this regard, it could be more or less convenient, but it is necessary to design learning assessment instruments to know their relevance as an educational element (Hamadi et al., 2022; Mercado, 2020). In other words, the pandemic encouraged the use and mastery of certain digital applications, but if they are not used with a rigorous educational method, or if they are not part of a systematic educational strategy, it is difficult for their results to be properly educational and adequately evaluated. In other words, it is necessary to use digital technology within the parameters of educational models to have educational orientations.

One of the educational models that has proven to be most suitable for incorporating digital technology in flexible educational modalities is the flipped classroom (FC). Recent

studies show that this strategy enjoys a high degree of acceptance, and after the period of confinement several educational institutions have reported their intention to institutionalize it (Arrieta, Llinás, Solórzano, Umaña & Huyke, 2022; Bond, 2020; Guraya, 2020; Sun and Xie, 2020). We will have to wait for the results of these studies to know the level of success. Meanwhile, this essay describes the difficulties that arose when institutionalizing this educational model as a strategy for returning to the classroom in a faculty of a Mexican public university. With institutionalization, the specialized literature refers to the fact of guiding specialized personnel, budget and regulations so that a certain educational process is incorporated as a formal one in universities (Escudero-Nahón, 2017). In addition, it reflects on the relevance of creating a new line of research that considers the factors that prevent educational strategies, theoretically suitable, from being fully institutionalized in educational institutions.

In accordance with the guidelines of the Revista Iberoamericana para la Investigación y el Desarrollo Educativo [RIDE] (2022, para. 20), the essays are a critical, analytical and documented contribution of the current state of knowledge on a topic. This text presents a critique of the process of institutionalization of educational innovation in public higher education; It does so through two types of documents: 1) scientific literature specialized in FC, and 2) the experience of institutionalizing FC in a Mexican public university. The analysis was carried out as follows: 1) what FC is described, 2) its pedagogical relevance is based on explaining the theoretical principles of constructivism, and 3) it is explained that these two areas (the FC operation process and its theoretical principles) are not enough to institutionalize it as a strategic model for reincorporation into normal education after the period of confinement due to covid-19. All of the above has been documented in the most recent literature on the subject (see references).

Likewise, RIDE (2022, para. 20) points out that the essay must contain novel, unpublished contributions and clearly differentiated personal interpretations. This text presents a topic that has been little explored in the specialized literature on digital technology or, at least, the results of that exploration are not available in scientific databases. In this sense, it is a novel text because it reflects on the factors that hinder the processes of institutionalization of educational innovation in Mexican public higher education, but specifically after the period of confinement due to the covid-19 pandemic. The unprecedented nature lies in the fact that, after reviewing it with software specialized in the similarity of

academic documents, this text presented less than 10%, according to RIDE itself. Finally, personal interpretations are highlighted in the discussion and conclusions of the essay.

The flipped classroom as an educational strategy after the period of confinement

The creation of the FC is attributed to Jonathan Bergmann and Aaron Sams (2014), who in 2007 devised a compensatory strategy to help learners who, for various reasons, did not attend the face-to-face classroom. However, there are records that, in 1997, Lage, Platt and Treglia used the term inverted classroom (Chambi-Mesco, 2018; Divjak, Rienties, Iniesto, Vondra and Žižak, 2022) and, later, in 2017, Baker used the term classroom flip to propose changes in traditional educational processes. In short, the intention to change the process in traditional education dates back decades.

Currently, the FC proposes a simple but promising transformation: the student studies the formal contents of the subject at home and practices what has been learned in the classroom. To put it colloquially: in the FC the task is not done at home, but in the classroom. Because digital technology has a broader and deeper presence in educational processes every day, it is common for FC to combine online learning (at home) with face-to-face learning (in the classroom) (Aguilera, Manzano, Martínez, Lozano and Casiano, 2017; Arráez, Lorenzo, Gómez and Lorenzo, 2018; Chen, Lin and Tang, 2021; Gil, Monge, Gracia and Buyolo, 2021; Matzumura, Gutiérrez, Zamudio and Zavala, 2018). All of the above endows FC with certain peculiarities, from an educational point of view.

For this reason, this educational model has gained popularity and has become a feasible option to be applied at various educational levels and in various subjects (Bergmann and Sams, 2012, 2014, 2015a, 2015b, 2016). Its acceptance among the educational community has been such that terms such as flipped learning and flipped evaluation have even been proposed (Mercado, 2020; Observatorio de Innovación Educativa del Tecnológico de Monterrey, 2014). With the sustained reduction of the gap in access to digital technology and the Internet in Mexico (National Institute of Statistics and Geography [Inegi], July 4, 2022), it is increasingly feasible for FC to incorporate the use of digital applications throughout their educational process.

The FC is divided into two large phases. The study phase at home encourages autonomous learning and the use of various digital applications, therefore, it also implies the

instrumental mastery of educational technology (Basso, Bravo, Castro, & Moraga, 2018; Cencia, Carreño, Eche, Barrantes, & Cárdenas, 2021; Divjak et al., 2022; García Ramírez, 2019). The second phase, practice in the classroom, instead encourages active, collaborative, and meaningful learning (Divjak et al., 2022; Domínguez and Bobkina, 2021; García, 2019; Gaviria, Arango, Valencia, and Bran, 2019; Adriazola, Duran and Flores, 2020). In addition, the FC optimizes the time in the classroom because the teacher can guide his advice in a personalized way (Araya, Rodríguez, Badilla and Marchena, 2021; García, 2019). In both phases, various methods of hetero-evaluation, self-evaluation and co-evaluation can be applied.

It is necessary to describe the theoretical principles underlying the FC in order to subsequently explain why it was proposed as a strategy for reincorporation into physical classrooms after the period of confinement. From a theoretical point of view, FC operates with the principles of constructivism and, in this sense, in addition to being capable of consolidating autonomous learning (Chen et al., 2021; Escudero-Nahón and Mercado, 2019; Han and Røkenes, 2020; Sandobal, Marín and Barrios, 2021), collaborative, active and meaningful learning (Namaziandost and Çakmak, 2020; Quinteros and Cárdenas, 2021), also strengthens self-regulation skills (Alegre and Silva, 2020; de la Barra and Carbone , 2020; González and Huerta, 2019; Lin, Hwang, Chang, and Hsu, 2021; Madrid, Angulo, and Prieto, Fernández, and Olivares, 2018; Özbay and Çınar, 2021).

The specialized literature has suggested that this educational model can support the principles of constructivist theory. For example, one of those principles refers to the construction of original knowledge based on prior knowledge. In FC, this is true when the apprentice carries out autonomous learning processes at home and later attends the face-to-face classroom to do the homework (Barral, Ardi-Pastores, & Simmons, 2018; Khahro, Javed, Pirzada, & Ali, 2018; López, Nó, Martínez and Conde, 2018).

The constructivist theory has been widely used to improve and transform the theoretical principles of face-to-face education. However, the fact that the teaching authority is a fundamental pillar of traditional education poses risks to succeed in said transformation. The same does not happen with the educational model of the FC because, by definition, the investment of the process makes the apprentice responsible for learning it. Indeed, the theoretical principles of the constructivist theory are activated, which strive for the learner to systematically and gradually build meaningful knowledge, appropriate to its context and useful (Akçayır and Akçayır, 2018; Putri, Rusdiana and Rochintaniawati, 2019).

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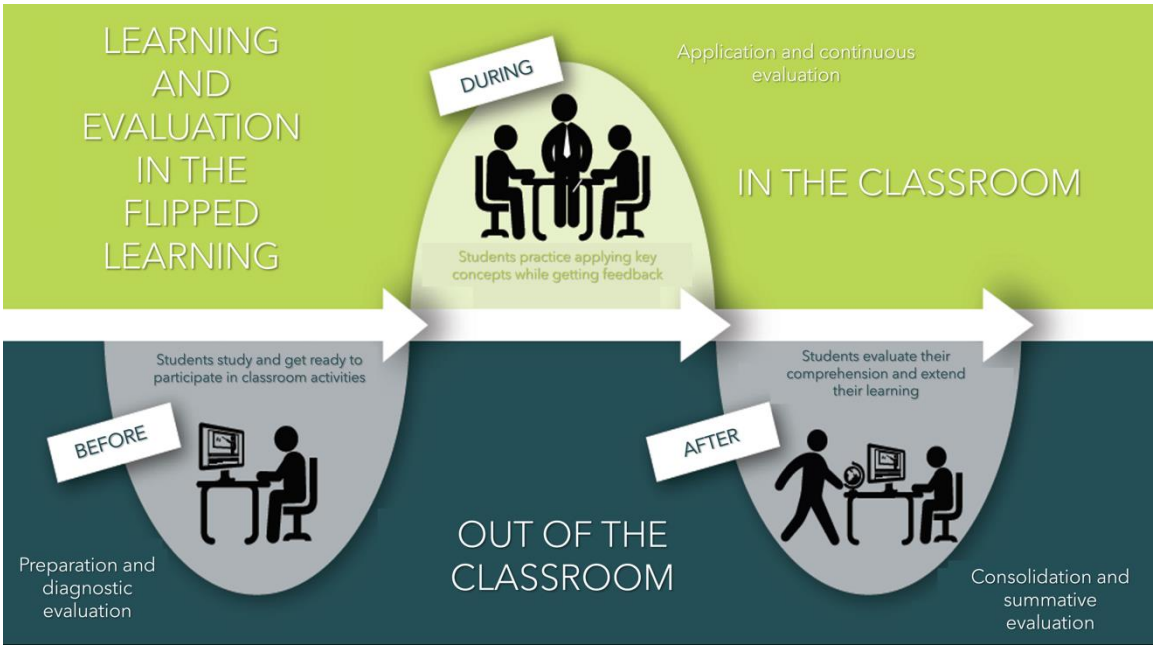
The theoretical proposals of constructivism have been very useful in addressing active, self-regulated, cooperative, collaborative, situated, and problem-based learning. The scientific literature suggests that these strategies have been developed with some success. Due to the above, it is not risky to ensure that, from a theoretical point of view, FC can be considered as an educational expression well-articulated with constructivism. From the theoretical, methodological and procedural points of view they are well harmonized.

It has been said before in this text that, theoretically, there are two phases in FC. Each of them fosters different skills. However, from the procedural point of view, there are three phases (Bergmann and Santiago, 2018). In the first, which takes place at home, the apprentice performs autonomous learning processes and diagnostic self-assessments. In the second phase, which is carried out in the physical classroom, the task and some hetero-evaluations and co-evaluations are carried out continuously. In the third phase, which is implemented at home, the apprentice consolidates the process with the help of summative self-assessments (figure 1).

Figure 1. Three procedural phases of the FC



Source: Observatory of Educational Innovation of the Tecnológico de Monterrey (2014 p. 5).

The correct development of this educational model implies, however, that the learner assumes a lot of responsibility to study the formal contents outside the classroom with the help of digital technology and go to the face-to-face class with doubts and comments that

allow them to correctly apply what they have learned. Some advantages of applying AI well are summarized in optimizing time in the physical classroom, since teachers can personally attend to the progress of each learner (Barral et al., 2018; González and Huerta, 2019).

Likewise, FC presents many challenges for teachers because it is necessary that, before inverting the educational process, they have realized that the learner knows the characteristics of the model, has a high sense of responsibility for their learning outside of the face-to-face class, have certain digital skills to properly manage information and, at the same time, a proactive attitude in face-to-face classes. This involves more effort and work than usual. Later it is explained that this situation became a factor that made it difficult to institutionalize AI in a public university.

In general terms, any educational model that integrates a learning-focused approach with digital technology, and pays attention to personalized education, will be a model that presents several challenges. FC presents specific challenges in the following five areas: 1) teachers require training on FC; 2) the learner needs to build a digital culture where she takes responsibility for her learning; 3) the educational community must produce, exchange and value the digital resources that it designs for its FC; 4) the institution that develops FC must initiate a process of modernization of the connectivity infrastructure; 5) the team that leads the development of FC needs to approach the experience as a process of research, development and educational innovation.

All of the above led to consider that the FC was an ideal strategy to deal with the problem of returning to physical classrooms after the period of confinement due to the covid-19 pandemic, since said return had to meet certain conditions: be gradual, voluntary and safe for the entire educational community. Some specialists warned that, since there are no continuity strategies in educational services, universities should face a new problem with the return to physical classrooms without a preconceived plan. Higher education institutions were called upon to guarantee a safe, voluntary and gradual return.

A Mexican public university designed an option to return to physical classrooms after the period of confinement. The originality of this option is that it was based on the FC and thus educational parameters could be integrated, as well as logistical and administrative notions. However, various difficulties prevented institutionalizing this educational strategy, that is, specialized personnel, budget and regulations were not oriented so that the FC was a stable educational activity in the university (Escudero-Nahón, 2017). The foregoing provoked a serious reflection on the relevance of inaugurating a new line of research that

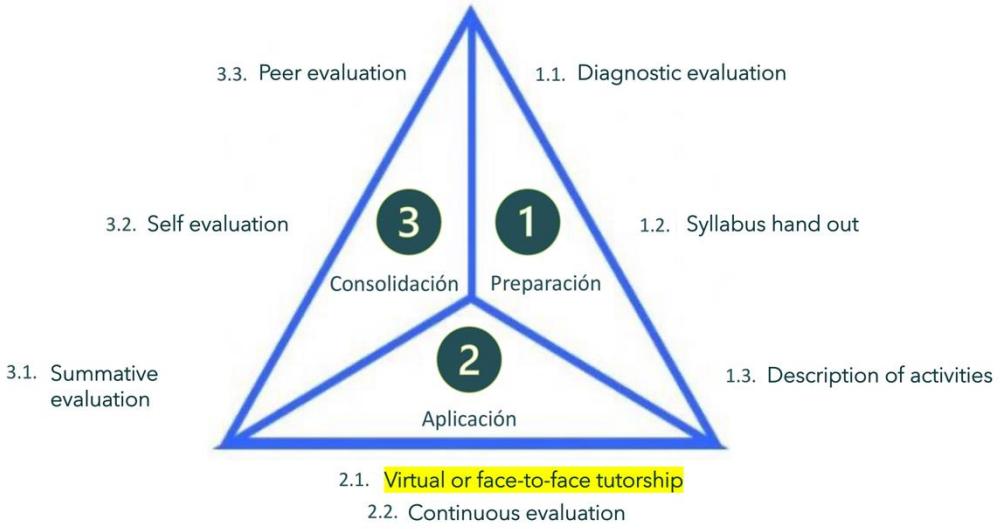
studies the resistance factors that condition the institutionalization of innovative educational strategies in institutions.

Difficulties to institutionalize the flipped classroom as an educational strategy

As has been shown before in this text, in Bergmann and Sams' FC proposal there is a phase that takes place in the physical classroom and serves for the learner to do the homework and carry out hetero and peer evaluations. The regulatory provisions of the sectors related to health and education at all levels of government were very strict when clarifying that the return to educational normality had to be gradual, it had to be done voluntarily, but above all it would have to guarantee the people safety. Therefore, a virtual phase was proposed, which became the touchstone of the voluntary nature of the strategy. That is, the apprentice had the power to decide if he attended the face-to-face class or not.

Due to the above, it was necessary to make a variation to the original FC model. In the strategic proposal, this phase could be carried out with the use of videoconference applications (figure 2). This opened up the possibility of voluntary return, since only apprentices who needed to meet their teachers in person would go to the university. This slight variation to the AI opened up the possibility of a gradual return, since before going to the university, the apprentices had to fill out a Google form so that the professor could control the capacity of the classrooms.

Figure 2. Variation of the original FC model



Source: Own elaboration

After confinement, the public opinion of teachers expressed that it was essential to apply knowledge leveling strategies (Musaddiq, Stange, Bacher-Hicks & Goodman, 2022). That is why there was a sense of urgency to have a face-to-face phase in the FC. However, health concerns made the health of the university community more valued. In short, the possibility of having virtual consultancies was opened. In addition, previous studies in the faculty of this Mexican public university suggested that there was a high level of satisfaction among the learner regarding the use of digital applications on videoconferences, information management in the cloud and the use of knowledge management platforms (Canchola, García and Chaparro, 2020).

However, it was necessary to consider the limitations that FC has before being applied, since it requires that teachers be trained and that students have accurate information in this regard (Mercado, 2020). In addition, the teacher must support the student to develop autonomous learning, learn to self-regulate, plan, take responsibility and organize in the teaching-learning process, and thus be able to carry out school tasks (Castellanos, Sánchez and Calderero, 2017; Mello and Hernández, 2019). Despite the relevance of autonomous learning for improving academic performance, an assessment model is needed that deeply analyzes the student's autonomous learning within the FC (Chambi-Mescco, 2018; Sandobal et al., 2021).

Due to the above, it was necessary to carry out a virtual institutional training process in that public university. In total, 95 teachers were trained between June and August 2021. The objective of the training was for teachers to be able to identify the theoretical, procedural, and didactic principles of FC (Table 2).

Table 2. FC topics covered in the training period

Level				
	Theoretical	Conceptual	Procedural	Evaluative
Issues	Constructivisms	Types of learning: - Significant - Active - Collaborative - Self regulated Educative technology	Didactic strategies Didactic techniques	Functionality: - Diagnostic - Formative - Summative Agents: - Heteroevaluation - Peer evaluation - Self evaluation

Source: Own elaboration

In general terms, the variation of the FC model and the training did not present difficulties in adopting the new knowledge. However, institutionalizing this proposal required transformations to be made at the top management level. In other words, it was necessary to redirect personnel, resources, and a clear strategy to promote the use of FC among teachers, assist in the correct application of the new model, and evaluate its performance.

None of this was possible because, in principle, the FC requires that at least two assumptions be culturally transformed: 1) teachers must distribute their authority with the apprentice so that all types of learning are activated (Bezanilla, Fernández, Poblete and Galindo, 2019); 2) the apprentice must take charge of managing study time, the responsibility of studying and presenting good results (Masino and Niño-Zarazúa, 2016). This was precisely the factor that made it more difficult to change the educational model: the cultural factor, the lack of willingness to leave behind known symbolic places and transform teaching practice and responsibility for learning. In other words, the inertia of controlled teaching and comfortable learning triumphed.

This result coincides with other experiences duly documented in the scientific literature. For example, it has been recorded that, even when the health contingency provided the opportunity to transform education, this process has not been consolidated because there have been no regulatory, budgetary or strategic transformations (Acharya, Mukherjee, Bhattacharjee, Datta and Deyasi, 2022). This same literature has suggested that FC can be

beneficial in several institutional areas, for example, in optimizing resources, updating education management procedures, designing new efficiency indicators, etc., but, curiously, institutional inertia prevails to hinder the transformation (Hoshang, Hilal and Hilal, 2021).

Among these studies, transformation proposals stand out that are not onerous for educational institutions, since there are currently many free educational technology options on the Internet. Simply, it is about implementing strategic planning to reorganize teaching work and take advantage of everything the accumulated knowledge about the incorporation of open resources in education (Acharya *et al*., 2022; Khan and Abdou, 2021).

Theoretically, most of the new educational models that integrate digital technology in their teaching-learning and evaluation processes have evolved significantly. However, its institutionalization has not done so in the same way. This imposes a limit on scientific knowledge because, if what is promised cannot be applied in daily educational life, the effort is useless. Specifically, the health contingency brought many educational challenges that could eventually become consolidated knowledge (Hoshang *et al*., 2021). This knowledge could be used to transform educational institutions, to update their procedures or to anticipate the appearance of other contingencies of all kinds. FC is an educational strategy that could be institutionalized with the aim of improving educational quality.

Discussion

This scientific essay has used data from electronic scientific databases and reports from international and national organizations specialized in education to identify the situation of FC as an educational model after the period of confinement of the covid-19 pandemic. These documents suggest that FC gained popularity among teachers because its theoretical and procedural principles allow students to study formal and abstract content at home, and then go to the physical classroom to do homework.

Likewise, this scientific essay presented the case of a Mexican public university that wanted to institutionalize FC as a strategy to gradually, voluntarily and safely return to the new educational normality. So, since the scientific essay allows novel proposals to be made on data that were not obtained first-hand, in this text it has been proposed that a line of educational research be developed entitled "Difficulties for the institutionalization of educational innovation in education public superior".

The results of this study allowed us to identify the factors that prevented FC from being institutionalized as an educational strategy in a Mexican public university after the period of confinement. Although, theoretically, the AI enjoys a high acceptance among the educational community (Nja et al., 2022; Ruiz, Martínez, Licerán and García, 2022; Willermark and Islind, 2022), it was not possible to institutionalize it in a public autonomous university. Mexican due to cultural and political factors. This inconsistency, that is, the fact that the educational community declares in opinion polls that FC, as an educational model, is useful and desirable, but at the time of institutionalizing it, does not admit it, is otherwise interesting.

In such a way that this discussion will be developed with the understanding that it is not possible to see the inconsistency described above, if the educational institutions do not decide to institutionalize the FC. To put it in other words, if we only analyze the perception of the university community about FC, everything suggests that it is a well-accepted educational model. But until an attempt is made to institutionalize it, resistance appears that opinion polls have not been able to register. Therefore, there is not enough specialized scientific literature that has documented this inconsistency. This situation, far from limiting the discussion, raises it as a discussion of an emerging issue after the period of confinement: "Difficulties for the institutionalization of educational innovation in public higher education".

Now, it is necessary to discuss a term that does enjoy a lot of presence in the specialized literature. Educational innovation is generally conceived as a theoretical and procedural phenomenon where various protagonists of the educational process participate, but this phenomenon is rarely associated with the tensions inherent in the cultural and political spheres of educational institutions (Saliceti, 2015). In addition, until before the covid-19 pandemic, most of the theoretical studies in this regard were logically insensitive to the fact that there would be transformations in the management of educational institutions (Sharma, Kraus, Srivastava, Chopra, & Kallmuenzer, 2022). This scientific essay identified, after reviewing the specialized literature obtained in scientific databases, several situations regarding the institutionalization of educational innovation. Firstly, by trying to institutionalize a model considered innovative by the academic community (Chiu, Im, & Shek, 2022; Haleem, Javaid, Qadri, & Suman, 2022; Moghadam & Razavi, 2022), favorable opinions are simultaneously activated, but also resistance in educational practice. In the specific case of this experience of institutionalization of FC in a public university, these resistances were presented by both the teaching staff and the students. The specialized

literature on the term educational innovation usually leaves administrative and management elements out of its analysis, which are those that allow guiding specialized personnel, budgets, and regulations so that a certain educational process remains stable in universities (Escudero-Nahón, 2017). Therefore, this discussion suggests that it is feasible to inaugurate a line of research on the difficulties for the institutionalization of educational innovation in public higher education.

Likewise, the fact that institutionalizing an educational innovation requires political will on the part of the authorities to deal with the new work and school demands that implies doing what is known in a different way was identified. One of the most important findings in this study, which has not been observed in similar studies (Akçayır and Akçayır, 2018), lies in the fact that the institutionalization of educational innovation could threaten the political capital of educational authorities. To put it simply: educational resistance causes discontent among the teacher community, and this impacts the political value of educational authorities. Given such a scenario, it is very likely that institutionalizations of educational innovation will not be attempted. This was the case of the attempt to institutionalize FC in a public university after the lockdown period: although the educational model is innovative, it requires more work on the part of teachers and students. The educational authorities did not bet on carrying out the institutionalization, that is, they did not direct resources, specialized personnel or regulations, since their political value was threatened.

In this particular case, the institutionalization of the FC as a strategic educational model to guarantee the safe, voluntary and gradual return to face-to-face classes was well designed but aborted due to the resistance that it activated among the teaching staff. In other words, its correct institutionalization should imply a sensitive transformation in teaching practice, in institutional procedures and in the culture of learning. On this subject, no specialized literature was found available in scientific databases. For this reason, it is considered, once again, that a line of research entitled "Difficulties for the institutionalization of educational innovation in public higher education" should be inaugurated.

The limitations of the study lie in the fact that only the case of one faculty was documented, within a university that has 13 faculties and one upper secondary school. Therefore, more qualitative and quantitative empirical research is needed to obtain consolidated knowledge on the subject.

Unfortunately, the period of return to face-to-face classes has already passed and it will not be possible to witness this same phenomenon until the appearance of a new pandemic and its corresponding health contingency.

Conclusions

This scientific essay makes a concrete proposal: to inaugurate the research line "Difficulties for the institutionalization of educational innovation in public higher education". The foregoing is the result of a reflection process based on a documentary review in scientific databases, and the description of a failed attempt to institutionalize FC as a strategy for reincorporation into face-to-face classes after the period of confinement of the covid pandemic-19.

The review of specialized documentation suggests that educational models have undergone various transformations mainly driven by technological reasons. However, the recent health contingency caused by the covid-19 pandemic imposed unprecedented educational challenges in recent world history. Fortunately, the educational sciences have consolidated knowledge regarding the incorporation of new educational models in old-fashioned institutions. Although, theoretically, it is feasible to incorporate new models in institutions of a traditional nature, this process requires changes in various areas. It is not enough to demonstrate that educational theories, didactic strategies, educational technology and evaluation processes are well harmonized, but it is imperative that educational regulations change, that resources are redirected and that new human talents are formed.

On the other hand, the description of the failed attempt to institutionalize FC as a strategy for reincorporation into face-to-face classes shows us that, if institutionalizing is incorporating a new educational model into the regulations, processes, monitoring indicators and budget, then, curiously, one of the factors that could hinder this institutionalization is the resistance of teachers and students to leave the common places where cultural values such as the control of authority and comfortable learning are reproduced. If that is the case, the educational authorities will hardly run the risk of transforming educational practice in exchange for politically devaluing themselves.

Future lines of research

Thus, a new line of research is opened that addresses the difficulties for the institutionalization of educational innovation in public higher education. This line of research would analyze the difficulties that prevent new educational models capable of transforming educational practice from being institutionalized due to a paradoxical resistance to change. In this way we would not lose the precious possibility that the health contingency brought us to continue learning more about educational innovation processes. If on this occasion it was not possible to institutionalize the FC, we should at least know precisely what prevented it.

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Rol de Contribución	Autor (es)
Conceptualización	Alexandro Escudero Nahón
Metodología	Alexandro Escudero Nahón
Software	NO APLICA
Validación	NO APLICA
Análisis Formal	Ricardo Chaparro Sánchez
Investigación	Alexandro Escudero Nahón
Recursos	Ricardo Chaparro Sánchez
Curación de datos	Alexandro Escudero Nahón (Principal) y Ricardo Chaparro Sánchez (que apoya).
Escritura - Preparación del borrador original	Alexandro Escudero Nahón
Escritura - Revisión y edición	Alexandro Escudero Nahón
Visualización	NO APLICA
Supervisión	Alexandro Escudero Nahón

Administración de Proyectos	Ricardo Chaparro Sánchez
Adquisición de fondos	Ricardo Chaparro Sánchez