

Impact of the use of technological tools in the administration of the educational processes of the TESJO with the application of the hybrid model (inverted classroom) year 2022

Impacto del uso de las herramientas tecnológicas en la administración de los procesos educativos del TESJO con la aplicación del modelo híbrido (aula invertida) año 2022

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DOI: 10.35429/JFE.2021.8.5.26.32

Received January 25, 2021; Accepted June 30, 2021

Abstract

In the current scenario and considering a progressive and adaptable radical change to the economic, educational and social conditions of our country exacerbated by the pandemic by COVID-19, motivates us to analyze various educational models, in which ICT are fundamental as tools for the proper management of virtual and face-to-face education models that are handled in higher education, we consider that the technological infrastructure for the face-to-face and online model should be increased, since their combination gives us a new model known as hybrid or inverted classroom, which is already applied in several institutions. It is relevant to highlight that both teachers and students assume an important role in the use and application of electronic platforms considering that it has revolutionised the teaching and learning process compared to the traditional model. In this sense, we know that the training of students and teachers must be constant because it is essential to have the skills for the proper management of technological platforms and resources.

Technologies, Electronic Platforms, Teachers, Higher Education, Infrastructure, Infrastructure

Resumen

En el escenario actual y considerando un cambio radical progresivo y adaptable a las condiciones económicas, educativas y sociales de nuestro país exacerbado por la pandemia por COVID-19, nos motiva al análisis de diversos modelos educativos, en los que las TICS son fundamentales como herramientas para el manejo adecuado de los modelos de educación virtual y presencial que se manejan en la educación superior, consideramos que se debe incrementar la infraestructura Tecnológica para el modelo presencial y en línea, dado que su combinación nos da un modelo nuevo conocido como híbrido o aula invertida, mismo que ya se aplica en varias instituciones. Es relevante destacar que tanto docentes como alumnos asumen un rol importante en el uso y aplicación de las plataformas electrónicas considerando que ha revolucionado el proceso de enseñanza aprendizaje comparado con el modelo tradicional. En ese sentido sabemos que la capacitación de alumnos y docentes debe de ser constante porque es fundamental contar con las habilidades para el manejo adecuado de plataformas y recursos tecnológicos.

Tecnologías, Plataformas Electrónicas, Docentes, Educación Superior, Infraestructura

Citation: AYALA-RÍOS, Irma Amelia, GONZÁLEZ-CRUZ, Saúl and LÓPEZ-SÁNCHEZ, Iván. Impact of the use of technological tools in the administration of the educational processes of the TESJO with the application of the hybrid model (inverted classroom) year 2022. Journal-Financial Economy. 2021. 5-8:26-32.

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Introduction

In the 21st century, what is called the information society has been shaped, by virtue of this, technological tools flow instantaneously that contribute to generating important changes in many spheres of social and educational life. Information and communication technologies have played an important role in society by introducing a dynamic and immediate way of accessing information and establishing new communication structures at all levels. To adapt to these changes, educational institutions, especially at the higher level, have carried out various actions related to their introduction, use and specific applications, some of which are: the acquisition of an important technological base, the implementation of policies specific information on the diversified use of ICT in their administrative and academic processes, the integration of some technological tools in teaching and learning processes, and in some cases, the development of cutting-edge technologies. When returning to educational activities, it is necessary to avoid crowds in educational centers, so it is necessary to think about instituting educational alternatives such as the mixed hybrid model, which would help as an alternative for academic activities to be developed in a staggered manner. for the teaching-learning process, thus achieving those students develop specific competencies for their level of studies. In this way, teachers, in addition to the appropriation of content, must be oriented to a new contingent and methodological effort shared among students to improve didactic processes. The virtualization of the contents thus raises a new paradigm for ICT-assisted education, whose objective is to facilitate the performance of academic activities in any academic context, having the relationships between students and tutors in the creation of new knowledge through technological devices of information. At the Tecnológico de Estudios Superiores de Jocotitlán is no exception, the teachers belonging to it consider that information and communication technologies are an ideal tool to develop the hybrid model because it will allow planning and developing a globalized work with less effort and achieving the pedagogical innovation that favors both students of the same.

Problem statement and justification

Distance education is complex in nature and scope, involving a wide range of non-traditional forms of teaching and learning. Faced with unforeseen scenarios such as the COVID-19 pandemic, a real challenge was posed to the global socio-economic system.

In the case of education, the academic sector has been directly affected and has been forced to develop a context of digitization between the different productive sectors.

In general, it is teaching that occurs far from the place of learning, requires the use of technologies (Moore and Kearsley, 2012), allows flexible time management and gives students greater autonomy. (Vlachopoulos and Makri, 2019).

In that sense and according to what can be observed today and the experiences that leave us learning, education and its models have undergone an evolution over time, there are factors that accelerate changes, adapting to the future and combining the use of ICT in education.

The hybrid model is a mixed model where students are participatory, make better use of time and economic resources, achieving processes of reasoning and reflection, knowledge is deeper and is not based on a simple memorization of concepts.

However, it is important to highlight that the internet opens new horizons to create knowledge, formal and informal education is related to the hybrid model combining virtual education with face-to-face education. The new generations have used cyberspace as entertainment, leaving aside the wealth that this tool comprises with learning.

Among the advantages of the hybrid model, we can mention that they are related to the independent progress of the student through the search for information and critical thinking. It allows a better management, processing and distribution of information, in terms of the educational relationship and enhances the possibilities of reflective learning and collaborative work inside and outside the classroom.

The flipped classroom is an alternative that helps according to the interests of the students. In it, the teacher is not only an exhibitor of information and knowledge, his function is to be a tutor of learning, ensuring that the activities that were previously carried out at home are now carried out in the classroom and what was carried out in the classroom, now it is done at home, thus making the student responsible for their own knowledge and learning.

Based on the above, it is undeniable that the use of ICT can bring great advantages with greater and better use of time, ease of teamwork, more motivation and interest when developing their tasks, although there may be some disadvantages, such as the fact that teachers are not sufficiently trained or familiar with them, or that students do not take academic activities so seriously, given the ease with which they obtain the information. Still, the pros outweigh the potential cons, highlighting some of the benefits of incorporating technology into higher education:

- The ease of accessing information and the variety of information available.
- The high reliability parameters and the speed of information and data processing.
- The variety of communication channels they offer.
- The elimination of space-time barriers.
- The possibilities of feedback and great interactivity that they offer.
- The development of flexible spaces for learning.
- The empowerment of personal autonomy and the development of collaborative work.
- The optimization of the organization and the development of teaching and research activities.
- They streamline administrative and management activities, in addition to allowing them to be relocated from the immediate context.

It is undeniable that from these benefits the teaching-learning process must be transformed; both students and teachers have the opportunity to take advantage of the maximum capabilities offered by the use of the internet.

Educational technology does not consist only in the use of the internet, it is also possible to take advantage of it within the educational field to carry out activities both inside and outside the classroom, being part of the learning processes. Educational technology strengthens knowledge by achieving its understanding through audios, videos and images, and represents a support for the teacher in terms of its transmission.

By implementing technology in the classroom, two transcendent points in the life of the student are overcome, on the one hand, the acquisition of knowledge is facilitated and on the other, it prepares for their insertion into the labor field, since the profile of the graduate demands the use constant technology and communication, and in this way a participatory environment is generated within the educational community, managing to develop collaborative work.

It is necessary for students to become aware of their social reality. Political, economic and cultural, and to conclude that it depends on the proper use of information and communication technologies.

Undoubtedly the models will be face-to-face, hybrid and totally online, it will make use of artificial intelligence and various programs and platforms that are linked to self-learning guided by us as teachers, it is something that evolves by leaps and bounds at all levels. stop or return to the past, everything evolves. The hybrid flipped classroom model is a watershed in a new reality in the face of a changing world scenario and exposed to unforeseen situations, we are certain that the traditional model as a paradigm has totally changed, education is constantly changing and if it can be replaced traditional model through the hybrid model, which combines and merges the models, with the use of current technology, but requires the participation of all sectors involved in education, government organizations, management level, teachers, students, through a series of Well-designed, well-planned and well-implemented strategies in online and face-to-face mode, requires teamwork and foresight in the face of all new possible scenarios.

General objective

- Analyze the impact of the use of technological tools in the administration of the educational processes of the TESJO with the application of the hybrid model (flipped classroom) year 2022.

Specific objectives

- Investigate the theoretical context on the flipped classroom model in the Accountancy academy.
- Analyze the impact of the use of the hybrid model in the TESJO.
- Development of educational strategies for the implementation of the flipped classroom model in the career of Public Accountant of the TESJO

Theoretical reference

In this sense, Marc Prensky (2010, p. 5) points out the differences between being a native and being a digital immigrant, because they are substantial. The natives are all those who were born and trained using the digital language of computer games, video and the Internet; and digital immigrants are the ones who have been forced by necessity to train day by day, adapting to the environment and the environment, but always keeping a certain connection with the past. This is reflected in the teaching / learning process, since the students have all the experience in technology and digital matters, while the teachers have been constantly learning and incorporating this technology in our way of teaching. Likewise, through the use of technological tools, teachers could innovate their pedagogical practices, which would generate an important change in the educational process.

For Kustcher and St. Pierre (2001, p. 31), the ICTs that have an impact on the educational field are computers and peripherals (cameras, compact discs, printers and videos, for example), digital information (databases, web pages) and digital communication (electronic forums, messaging and videoconferencing).

In this way, the teaching / learning process goes beyond the traditional classroom hours and the teacher is no longer a simple transmitter of knowledge. Using ICT represents the opportunity and the challenge to innovate educational processes.

Cabero (2007) rightly points out that it is necessary to see technologies as educational means and resources, but not as the panacea that will solve the problems of the educational field. Therefore, the teacher must use them to help create an environment conducive to learning and reinforcing content seen in class.

In such an environment, learning must be active, responsible, constructive, intentional, complex, contextual, participatory, interactive, and reflective (Kustcher and St. Pierre, 2001). In this sense, Paulo Freire (2005) insists that education has to be a liberating space, facilitating learning, to train creative, critical, reflective and purposeful students in their own context; and, also, that you have to leave behind the banking or traditional education to which you were accustomed, to make way for the digital age.

Methodology

The present investigation was carried out from the quantitative approach by means of the design and application of a survey of closed reagents. The research was carried out in the 8 groups of Public Accountants that make up the Degree belonging to the Technological of Higher Studies of Jocotitlán, the above is due to the fact that the teachers received online courses on the subject under study, which allowed to put the knowledge into practice acquired.

From the aspects developed in this research, we intuit that the frequency with which teachers use the different technological tools and their mastery of them are two factors that support the results of the research.

Because they sought to measure specific variables related to the activities of the teacher, it was decided to design a new instrument that would adhere to the specific activities of research, teaching and extension, leaving aside the possibility of applying an instrument already developed on teachers and information technologies.

For the validation of the instrument, a pilot test was applied to 30 students, from the LN-0501 group, attaching a questionnaire to evaluate the congruence, writing, clarity and relevance of the questions. On the other hand, its internal consistency was calculated through Cronbach's Alpha, obtaining a score of 0.920. This same calculation was made from the 215 surveys collected, where a value of .0967 was obtained, considering it highly reliable.

The application of the survey was done virtually through the Microsoft forms platform, by means of a general invitation sent to the email accounts of the selected participants, through random numbers. It should be noted that, based on the experience of other researchers regarding the application of online instruments, the invitation was made to 10 teachers, which is why it was possible to collect the required number of the calculated sample.

To obtain the sample size, the statistical standards of 95% confidence level and a margin of error of 5% were followed, the calculation was made on a basis of 3 full-time teachers and 7 subject teachers who belong to the Technological of Higher Studies of Jocotitlán. The population is made up of 247 elements and 215 answered questionnaires were collected.

The data obtained were analyzed using the spss software and worked through a Chicuadrada test with a contingency table.

Partial or final results and discussion

Learning theories are the gateway for the enrichment of applications in different social areas, they provide the elements to open a wealth of experiences and experiences in any situation of daily life. Delving into each of them provides the tools, as well as the structures of their behavioral repertoire. (April, 2021). It is necessary to consider that if the institutions have the financial capacity to develop their own adaptive systems it would be great, however it cannot always be this way because the economic capacity for public universities is limited, however it can be tried with the resources that It is also important to mention that there are platforms and systems that are free and that only require an internet connection, the reality is that even with all these problems, it is necessary to try to continue immersed as active actors in this evolutionary educational model of continuous improvement.

Continuing the analysis of our results, we consider it pertinent to incorporate what was collected by the instrument applied to the students of the Public Accountant degree and based on their responses we refer that 97% of the respondents mention that the teachers of their subjects have relied on information technologies for the development of its agenda; The foregoing leads us to confirm that there has indeed been a positive impact and initiative of teachers in keeping students at the forefront of technology and migrating from the traditional model to the effective use of information technologies.

Más detalles

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Graphic 1

It is important to note that it has not been an easy process for both parties, however, the effort and interest of both; allows us to conclude that it continues to innovate in the improvement of teaching-learning processes.

The quality of academic products is of vital importance in any teaching-learning process; and it allows the student to create and innovate in such a way that the use of knowledge in each of their subjects is reflected; Based on the above, 90% of the students surveyed answered that the use of technological platforms has helped them improve the quality of their academic products; It is of great importance to highlight this point; since students can now have much more information tools and sources of consultation to improve their academic production day by day in each subject they study.

Más detalles

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Graphic 2

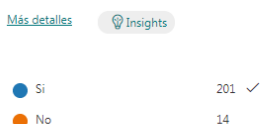
The academic training of each of the students is an accumulation of data that in the future will serve as a parameter in their working life; and we refer to the term parameter as a reference to follow; since in the workplace and according to the activity or line in which they work, they may fully or partially apply such knowledge seen in classrooms. It is very true and known to all that what we learn in our educational institutions is only a reference in working life; just as the policies, processes, environments, technologies, innovations, changes and updates of data and information will always be variable in each economic entity; Thus, 90% of our respondents consider that the technological platforms occupied in each of their subjects have helped them to have a broader vision in their future working life.



Graphic 3

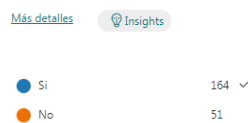
We can see the above on a day-to-day basis, given that economic entities have had to adapt to such platforms also to stay within their different markets; Nowadays, with a world of technological applications and electronic platforms, it is how the business processes of each of them are generated.

We have heard of a well-known saying that practice makes perfect; and this is brought up by the following reference; 93% of the surveyed students responded that preparing their academic products and uploading them to digital platforms has allowed them to reinforce their technological skills; It is very true that as in all new knowledge there is a learning process; and surely that under the panorama that we continue living in the subject of public health; Such practice in the students has helped them to improve and of course to have a certain level of mastery of electronic platforms.



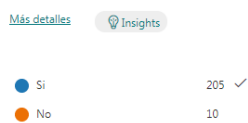
Graphic 4

The analysis of the level of knowledge about digital platforms shows us encouraging results given that the answers indicate that the interpretation of the students on this item indicates that 76% of all students have the knowledge and skills necessary to use it. platforms, while 24% do not have it.



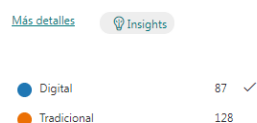
Graphic 5

Regarding the use and assignment of videos, articles and technological tools to improve academic achievement and the knowledge acquired, it gives us a very favorable result with 95% of favorable responses and only 5% of unsatisfactory responses.



Graphic 6

In the sense of the traditional and digital models, the preference of the students leans 60% towards the traditional model because it allows them to assimilate and better understand the content of the program of each subject while 40% consider that the digital and the forms are better. to understand the topics of the programs.



Graphic 7

Finally, the respondents suggest that institutions work with faster digital platforms and that they are easy to install in mobile applications and on the personal computer, in the same way they ask for greater flexibility and tolerance for connection problems and lack of internet.

Conclusions

With the integration of information and communication technologies in higher education, teachers have been generating new strategies and activities that until a few years ago were not contemplated, as well as the integration of networks of teachers at a national and international level to exchange practical experiences and knowledge; participation in virtual forums and congresses that allow teachers to have training experiences that help strengthen their practice; the possibility of studying distance programs, both for updating and postgraduate training, thereby increasing the qualification of teachers without the need to move geographically, and in general, a modification of their teaching, communication, management, linking and research activities.

For higher-level students to be able to make effective use of technology to enrich their learning process, it is necessary that they have the appropriate orientation. In this sense, teachers bear most of the responsibility; first, because they have a closer and permanent contact in the entire training process of their students, and second, because those who can identify the specific actions where information technologies can support them, especially in the proper management of the large number of information to which we are exposed.

In this sense, teacher training and updating in the use of ICT is essential, because in this way we can channel and disseminate more efficiently the knowledge and content of the academic programs that we teach at our institution.

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