

Barriers Preventing Quality Virtual Learning for Students of the Facultad de Transporte y Vialidad (FATV)

(en) Barreras que imposibilitan un aprendizaje virtual de calidad, en los estudiantes de la Facultad de Transporte y Vialidad (FATV)
(port) Barreiras que impossibilitam a aprendizagem virtual de qualidade para os alunos da Faculdade de Transportes e Estradas (FATV)

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Abstract

The article, entitled barriers that prevent quality virtual learning in students of the virtual modality of the Bolivian Higher Institute of Technology (ITB), for the realization of this article, it was allowed to work with the students of the Faculty of Transportation and Roads (FATV), in order to determine the main barriers that prevent meaningful learning in students of generation X, Y & Z. Students of these generations are the ones with the highest number of conglomerations in the total student population, which is why andragogical approaches are used that promote the direct appropriation of the knowledge shared in the key ideas of each unit, in order to determine which of these barriers are the ones that prevent their good performance and learning. A descriptive research was carried out on a sample group of 70 Transportation students, which consisted of a 20-question form, which when adding the information obtained based on direct observation identified 4 essential barriers that make meaningful learning impossible in virtual modalities: technological barriers, lack of availability of time, lack of motivation generated by not receiving feedback from the teaching staff and lack of commitment to exploring explicit content for their professional training; This allowed us to obtain a more precise overview of what must be worked on so that virtual education processes are effective in the learning process.

Keywords: *Barriers; learning; virtual education; limitations; FATV.*

Resumen

El artículo, titulado barreras que imposibilitan el aprendizaje virtual de calidad, en los estudiantes de la modalidad virtual del Instituto Superior Boliviano de Tecnología (ITB) en la Facultad de Transporte y Vialidad (FATV), con la finalidad poder determinar las principales barreras que imposibilitan el aprendizaje significativo en los estudiantes de la generación X, Y & Z. Los estudiantes de estas generaciones son las que tienen mayor número de conglomeración en la población total de alumnos, por lo cual se utiliza enfoques andragógicos que impulsan a la apropiación directa de los conocimientos compartidos en las ideas claves de cada unidad, para llegar a determinar cuáles de estas barreras son las que imposibilitan su buen desempeño y aprendizaje. Se realizó una investigación descriptiva a un grupo muestral de 70 estudiantes de la Transporte. Esta investigación consistió en un formulario de 20 preguntas, las cuales al ir sumando la información obtenida en base a la observación directa de los autores de este artículo científico, se pudo determinar qué existen 4 barreras esenciales que imposibilitan el aprendizaje significativo en las modalidades virtuales. Una de estas barreras es la tecnología, otra es la falta disponibilidad de tiempo, la falta de motivación generada al no receptar retroalimentaciones por el cuerpo docente y la falta de compromiso a la exploración de los contenidos explícitos para su formación profesional, esto permitirá obtener un panorama con mayor precisión en la cual se debe de trabajar para que los procesos de educación virtual sean eficaces en el proceso de aprendizaje.

Palabras claves: *Barreras; aprendizaje; educación virtual; limitaciones; FATV.*

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Resumo

O artigo, intitulado barreiras que impossibilitam a aprendizagem virtual de qualidade, em estudantes da modalidade virtual de Instituto Superior Boliviano de Tecnologia (ITB com os alunos da Faculdade Acadêmica de Transportes e Estradas (FATV). a fim de determinar as principais barreiras que impossibilitam a aprendizagem significativa em alunos da geração X, Y & Z. Os alunos destas gerações são os que apresentam o maior número de conglomeração na população total de alunos, razão pela qual são utilizadas abordagens andragogias que promovem a apropriação direta do conhecimento partilhado nas ideias-chave de cada unidade, para determinar quais destas barreiras são as que os impossibilitam de ter um bom desempenho e aprender. Foi realizada uma pesquisa descritiva em um grupo amostral de 70 alunos do Departamento de Transportes. Esta pesquisa consistiu em um formulário de 20 questões, que somando as informações obtidas com base na observação direta dos autores deste artigo científico, foi possível determinar que existem 4 barreiras essenciais que impossibilitam a aprendizagem significativa em modalidades virtuais. Uma dessas barreiras é a tecnologia, outra é a falta de disponibilidade de tempo, a falta de motivação gerada por não receber feedback do corpo docente e a falta de compromisso com a exploração de conteúdos explícitos para a sua formação profissional, isso permitirá obter um panorama mais preciso no qual trabalhar para que os processos de educação virtual sejam eficazes no processo de aprendizagem.

Palavras-chave: *Barreiras; aprendizagem; educação virtual; limitações; FATV.*

Introduction

With the increase in information technologies in education, the Faculty of Transport and Roads (FATV) has provided a background of possibilities to the population to opt for specialized or university training, this gap in possibilities has allowed many students to enter the educational system to acquire university degrees, technicians, and specializations.

This has led to teaching processes and methodologies being transformed towards the new trends demanded by the current market. For this reason, the main purpose of this presentation was born, which focuses on determining the barriers that FATV students have within virtual learning platforms; This is how it becomes one of the main challenges as described by which he states that these processes can generate different difficulties in the learning of students, because students have had to adapt to a new way of studying and many of them are unable to keep up with this new methodology (Santana et al., 2020) (Fardoun et al., 2020).

The population of students at the driving school in its entirety average and exceed 18 years of age, therefore, we are facing an andragogical learning process, which consists of the active intervention of students for the appropriate purpose of the contents (Bravo et al., 2024), because the student is the main interested in acquiring knowledge and more so when it is being studied in a virtual learning process (Aguilar et al., 2024) where Pareto's law can be applied and the commitment to learning depends on 80% of the students and 20% of the institutions, teachers and content (Guayasamin et al., 2024).

For this, it should be mentioned that percentage-wise there is a population that predominates in demographic distribution to students between the ages of 18 – 30 years, which represent 58% of the total student body enrolled, followed by the range of 31 – 40 years old with 28% of the total number of students, it should be noted that a large part of these students belong to generation X, Y & Z.

It is important to define the essential concepts of the group of people who are called generation as mentioned when explaining the so-called generation X, it is indicated that they are people born between the years 1965 to 1981, known as the lost generation. Generation Y, also known as Millennials, is understood to be people born between 1982 and 1994 (Galdames et al., 2022). This generation is so called because they grew up in an era of rapid technological advancements and are attributed to having an entrepreneurial mindset and valuing between work and personal life (Vásquez et al., 2021). And finally, generation Z born specifically between 1995 and 2010, their main characteristic is that they have grown up in an overwhelming digital environment and are considered to show advanced technological skills and above all to have greater cultural diversity (Rísquez Navarro, 2023).

Given these definitions, it is essential to analyze behavior individually, that is, to study the groups of people where they are more likely to adapt to technological changes, the same who belong to generation Z, followed by the students who represent generation "Y" (Clarin, 2024), to find homogeneous information that can affect all students. It should be taken into account that a large part of those mentioned are heads of households, for this you can see image 1, where the INEC mentions that the average age of marriages at the national level

is 31 years, therefore they are of limited economic resources, with these observations it is sought to determine the barriers that arise in their educational learning process under the virtual scheme. (Instituto Nacional de Estadísticas y Censos-INEC, 2023)

Figure 1
Average ages of marriages in Ecuador.



Fountain: (Instituto Nacional de Estadísticas y Censos (INEC), 2023)

Students, due to the accumulation of activities, usually have problems in the learning process that makes it impossible for them to learn, among these causes is the lack of availability of time for synchronous learning when using a virtual platform, it causes a deterrence of the message, because at the time they are receiving a keynote talk, conference, they are doing other activities at the same time, in the Bailey" (2020) mentions that the dispersion of attention can become a relevant problem in this educational context" (p.26), therefore virtual learning processes must be promoted through changes in order for the contents to generate interest in students and generate that they voluntarily appropriate the knowledge established in the virtual learning platform (EVA).

In summary, information technologies in learning processes have revolutionized the way of teaching and receiving synchronous classes, for this reason, it is necessary to know the obstacles that FATV students experience, to opt for academic strategies that are focused on improving the experience and quality of professional drivers.

Development

To carry out this study, the descriptive research methodology was used, which is focused on analyzing data in homogeneous groups, the research instrument used was the application of structured surveys, which is composed of closed questions applied to the students of the FATV, being a total of 70 respondents through digital forms, The questionnaire consisted of a total of 20 questions, which focused on knowing the reasons behind the absence of the students, the low percentage of participation, the knowledge of the use of

technological learning tools, the use of the resources of the virtual learning platform, contents, recorded classes, forums and the self-assessment of their teaching process in a virtual environment.

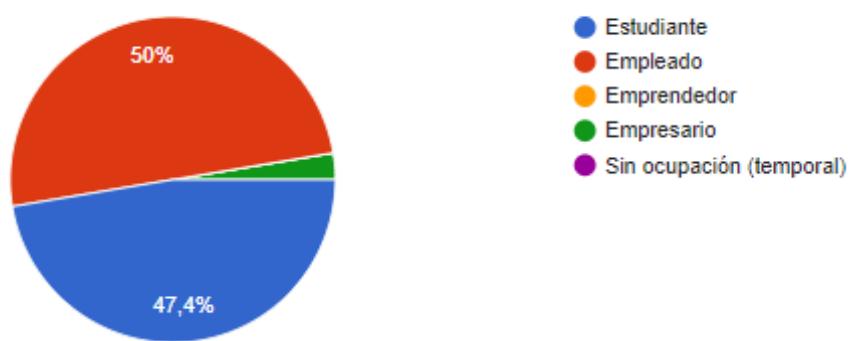
Data analysis:

For the present study, a random sample of 70 FATV students was taken, whose demographic data revealed significant patterns in the distribution of the respondents. It is observed that there is a conglomeration of students in the city of Guayaquil with a total of 32 people that percentagewise represents 45%, which is lower than the average, therefore, the remaining 55% of the respondents are distributed in other cities.

As for the distribution by gender, it can be observed that there is a male predominance since it represents 80% of the respondents. Regarding the educational level of the student population, it was determined that 100% of those surveyed have completed high school, of these students, there is a small percentage of students who are studying a second third-level career, aimed at being more competitive professionally and professionally.

Regarding the role or activities that are carried out in their day-to-day work, 47.4% of the respondents are economically independent, some students have their own business or provide services for a company under a dependent role, and 50% of the respondents are dedicated to their academic training.

Figure 2
Activities carried out by FATV students



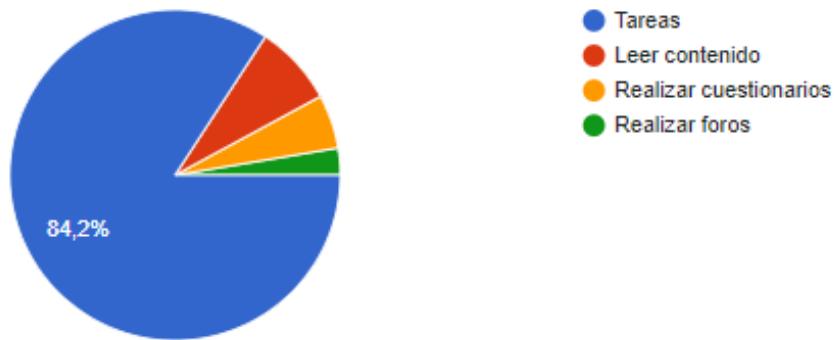
Source: Own elaboration

From the survey applied to the sample of 70 students, the most relevant information will be considered to summarize in 4 points the barriers that make it impossible for students to learn on virtual platforms.

First technological barrier

When analyzing the collected questions, it can be observed that the low performance of the students in many of the cases is due to the fact that they use the Moodle platform to fulfill their weekly tasks, which represents 84.2% of the respondents, and only 8.6% enter to read the contents of the class ideas, whose asynchronous activity should be the most important for their learning process

Figure 3
Activities that students carry out when they enter the EVA platform



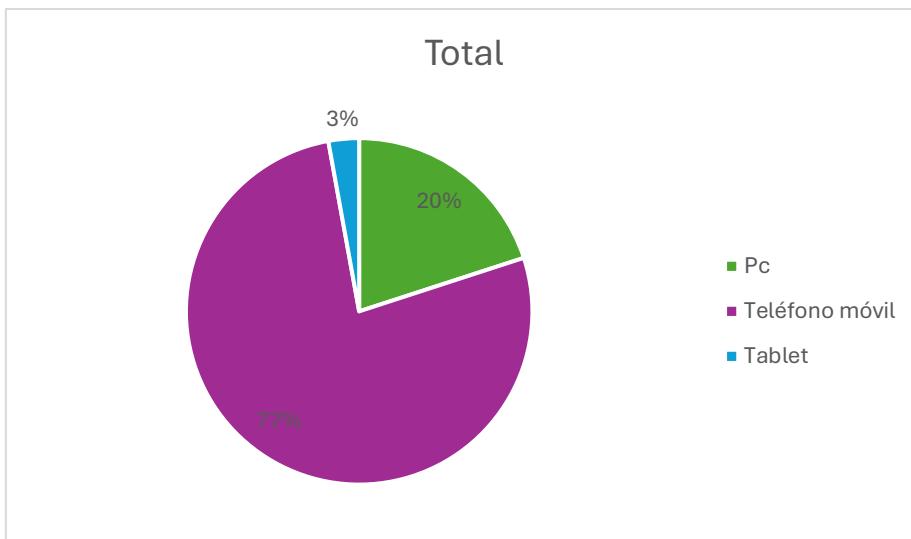
Source: Own elaboration

Second technological barrier

For this analysis, data will be used from two questions that were aimed at determining if technological tools can become an impediment to the learning process, for this it should be emphasized that the use of mobile phones predominates as the main resource in the reception of synchronous classes, obtaining 77.1% of the total respondents. therefore, for a virtual session or class to take place without any obstacle, the student must have good signal reception and battery charge, which becomes one of the main limitations in their learning process, these restrictive situations are due to the fact that many of the students are not in cities with 4G coverage and the battery capacity in a mid-range phone, It lasts approximately 5 hours on indefinitely, and as mentioned in the demographic questions, 47.4% of students carry out work activities, so they usually interrupt classes to be absent because they do not have a phone charge or signal.

Figure 4

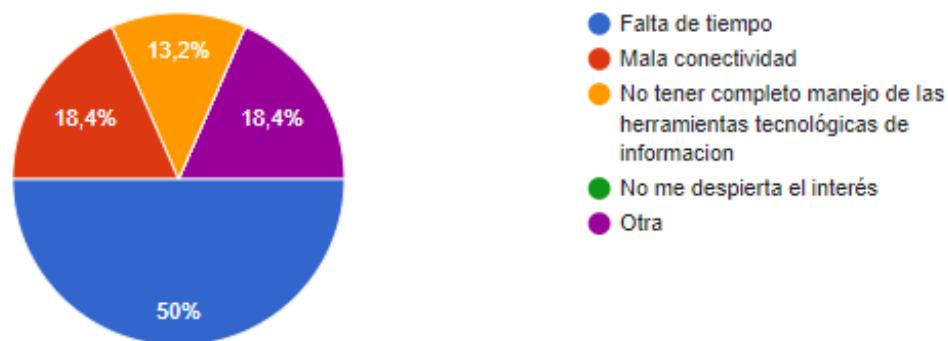
Technological devices are used to receive synchronous classes.



Source: Own elaboration

Third Barrier – Lack of Time Availability

The current lifestyle leads many people to perform multiple activities at the same time, which in English is called multitasking people, for this reason when asked what are the most common problems that have led to their learning process being impossible, 50% of those surveyed were able to express that it is due to the lack of availability of time, for this reason they usually enter the virtual classroom late, deliver the activity outside the established schedule, etc. This can be caused by the impact on student motivation, this has been observed in the exercise of teaching, where students begin to decrease their interactions when teachers do not give them feedback on their activities on the Eva platform and they are not recognized in public for their contributions.

Figure 5
Third Barrier that makes meaningful learning impossible.


Source: Own elaboration

Conclusions

At the end of this presentation, it can be concluded that FATV students do not exploit in depth the information provided by the Moodle virtual learning environment, which they only use as a storage cloud to download and upload asynchronous tasks, this could be corroborated in the previous research that showed that 84.2% only enter the platform to carry out this activity, relegating the review of content and observing recorded classes, master talks.

Therefore, the tool that predominates to receive synchronous classes is the mobile phone, which on many occasions comes to have intermittency within the signal which makes it impossible to receive messages properly due to the lack of 4G coverage nationwide and the capacity of battery life in constant use. This causes students to lose interest in continuing to participate in the classroom.

It should be noted that one of the main limitations that make it impossible for students to obtain an interest in synchronous classes and that the training process is affected due to the lack of availability of time that represents 50% of the respondents, which shows an overload of daily activities, which has an impact on a scarce interaction in virtual classrooms and the sending of activities after the deadlines.

One of the causes is that the motivation of students over time decreases for this reason, it is important to recognize that the commitment to the training of FATV students is a joint effort of students, teachers and the educational institution. To continuously improve educational processes, for this to be carried out, a self-critical examination and the implementation of improvement plans are required. To all this, we have a shared responsibility to adapt methodologies, provide training in virtual learning environments and the faculty give all their knowledge with charisma, dedication and providing constant feedback to ensure meaningful learning.

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