





Aula invertida como un modelo pedagógico en el proceso enseñanza y aprendizaje

*Flipped Classroom as a pedagogical model in the teaching and
learning process*

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Scientific and Technological Research Article

Sent: 03/10/2023

Revised: 11/15/2023

Accepted: 11/12/2023

Published: 05/01/2024

DOI: <https://doi.org/10.33262/exploradordigital.v8i1.2785>

Please quote:

Escobar Salavarría, KV, Santana Quimis, VJ, Velasteguí López, LE, & Guzmán Hernández, RGH (2024). Flipped classroom as a pedagogical model in the teaching and learning process. Digital Explorer, 8(1), 6-26. <https://doi.org/10.33262/exploradordigital.v8i1.2785>



DIGITAL EXPLORER, and It is an electronic, quarterly journal, which will be published in electronic format, and has the mission of contributing to the training of competent professionals with a humanistic and critical vision who are capable of presenting their investigative and scientific results to the same extent that positive changes in society are promoted through their intervention. <https://exploradordigital.org>

The journal is published by Editorial Ciencia Digital (a prestigious publisher registered with the Ecuadorian Book Chamber with membership number 663). www.celibro.org.ec



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Palabras**claves:**

Modelo pedagógico, aula invertida, aula invertida doble, docentes, estudiantes, proceso, enseñanza, aprendizaje

Keywords:

Pedagogical model, flipped classroom, double flipped classroom, teachers, students, process, teaching, learning.

Resumen

Introducción: El aula invertida es un modelo pedagógico que permite tanto a estudiantes como docentes optimizar el proceso enseñanza, busca intercambiar los roles, el aprendiente enseña los conocimientos previamente aprendidos en la revisión de textos, videos, lecturas y otros contenidos fuera del aula para explicarlo en el entorno áulico. **Objetivo:** el objetivo general es determinar la importancia del aula invertida doble en el contexto educativo globalizado. **Metodología:** El diseño fue investigación aplicada, según su enfoque se realizó un estudio cuantitativo, de campo, de carácter transversal y longitudinal. El alcance descriptivo. Los métodos aplicados fueron: deductivo, inductivo, analítico, sintético. La técnica de investigación aplicada fue la encuesta, con el instrumento del cuestionario que permitió investigar las variables del estudio. **Resultados:** En los resultados se confirma que los estudiantes utilizan aula invertida, lo aprovechan para la realización de actividades prácticas y a la resolución de posibles problemas. Se evidenció la posibilidad de implementar este método para contribuir al aprendizaje activo y fomentar la participación continua en forma colaborativa. **Conclusión:** Se concluye en el cumplimiento de los objetivos, así como se invierte el orden de la enseñanza en dos momentos, considerando que, el docente enseña en clase, el estudiante aprende y en determinado momento el escolar enseña lo que investigó, profundiza los contenidos y fomenta el aprendizaje colaborativo, lo que permite la aplicación del aula invertida en el contexto áulico. **Área de estudio general:** Docencia. **Área de estudio específica:** Emprendimiento y Gestión.

Abstract

Introduction:The flipped classroom is a pedagogical model that allows both students and teachers to optimize the teaching process, it seeks to exchange roles, the learner teaches the knowledge previously learned by reviewing texts, videos, readings, and other content outside the classroom to explain it. in the classroom environment.**Objective:**The general objective is to determine the importance of the double flipped classroom in the globalized educational context.**Methodology:** The design was applied research, according to its approach a quantitative, field, cross-sectional and longitudinal study was conducted. The descriptive scope. The methods applied were deductive, inductive, analytical, synthetic. The research technique applied was the survey, with the questionnaire instrument

that allowed the variables of the study to be investigated. **Results:** The results confirmed that students use an inverted classroom, taking advantage of it to conduct practical activities and solve potential problems. The possibility of implementing this method to contribute to active learning and encourage continuous participation in a collaborative manner was evident. **Conclusion:** It concludes in the fulfillment of the objectives, as well as the order of teaching is reversed in two moments, considering that the teacher teaches in class, the student learns and at a certain moment the student teaches what he has investigated, deepens the contents. and encourages collaborative learning, which allows the application of the flipped classroom in the classroom context.

Introduction

The Coronavirus COVID 19 pandemic, declared on January 30, 2020, generated changes in people's way of life, both in the work, family and way of studying, influencing teachers to assume new ways of educating, using Information and Communication Technology ICT, to transmit their knowledge, implementing different technological resources, thus, the 21st century efficiently contributes to the "Knowledge Society", its positive impact is linked to saving time and money, speeding up processes, especially in the educational field whose interconnection made it possible to innovate the teaching-learning processes (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2020).

In the educational field, Knowledge Management directly influences the awareness and appreciation of knowledge as a resource to create new spaces for the exchange of knowledge in a dynamic, flexible way that favors the development of investigative skills, adjusted to reality and transforming the way of learning with the continuous use of technological elements (Zamora et al., 2015).

From the above mentioned, the inclusion of technology in education appears as a mediator (Perez, 2018), establishes relationships between the teacher - student and all the academic content (Lovato, 2023), evolving the learning of blended learning classes and online education (Lewitus et al., 2021).

The use of technology in education gives way to the transformation of teaching, granting the learner new responsibilities that make him/her the manager of his/her own knowledge, because he/she investigates, reflects on the content, exposes what he/she has learned and thus the teacher becomes that mediator that supports and reaffirms that learning,

promoting strategies associated with the knowledge economy in accordance with the educational reality.

This is where the flipped classroom comes from, which was born from the innovative idea of teachers Jonathan Bergman and Aaron Sams from the Woodland Park Institute in Colorado, USA. In 2007, because students were missing classes, they decided to use software to record classes in PowerPoint and published the lessons on the Internet for students. (Villagas, 2020) The implementation of this educational methodology was relevant as online lessons spread quickly, they gave talks to other teachers and began to use videos and podcasts to teach students outside the classroom, reserving class time for group exercises and concept review exercises (Estrada et al., 2010).

Linked to the concept of the flipped classroom, according to Pineda (2020) “it is the didactic strategy that offers a form of semi-presential learning and students can learn from their homes through games, presentations, videos, online exercises, and both teachers and students interact to solve problems” (p. 1).

In addition to the definition, the use of the Internet in education allows teachers to bridge gaps, despite connectivity deficiencies, it is possible to reach more students in a dynamic way, giving the student the opportunity to develop their own content and learning (Dias et al., 2011).

Such is the importance of the flipped classroom that, according to statistics published by Ferriman (2023), “96% of educators who have used this methodology would recommend it to their colleagues, 9 out of 10 teachers notice a positive change in student participation, 71% say their students' grades have improved” (p. 1). The statistical data confirm the reception of the flipped classroom project in which students and teachers participated, turning education around.

By using all available digital tools and the active participation of students and teachers, academic performance was improved. (Almeida, 2022), the recordings of the classes being an opportunity to provide feedback on knowledge (Chuquimbalqui-Maslucán, 2021), through reviews of the material sent at the time and schedule that those involved wish. (Góngora, 2023), even the fact of those who do not have internet is corrected (Grudin, 2018), because they can access at any time on any network (Pujolà, 2019), download all the content and review it when they deem necessary.

Indeed, the use of technology in education allows the application of the double inverted classroom, that is, there is feedback on the content, especially when the student is not clear about the topic and needs to reinforce the theoretical information, researching more on the topic strengthens the teaching-learning process, with the possibility of becoming transmitters of knowledge (Bhat et al., 2015).

In addition to the above, the factual evidence used was the behavioral observations of the students regarding the use of the flipped classroom, in such a way that it provided information about their behavior, and the interaction of the teacher with the students when they participate in the learning activities.

In addition, assessments were carried out to measure student performance in specific tasks that were applied in the flipped classroom, as well as the execution of learning-based learning with the recording of videos, uploading infographics, recording document files, work and different productions carried out individually or in teams that allowed us to know the student's progress.

The results of the application of the flipped classroom revealed different problems, such as lack of interaction with the teacher and with their classmates, they prefer to work alone, they reject collaborative work, which limits discussion, the exchange of ideas between peers, development of critical and reflective thinking of knowledge.

Regarding the lack of flexibility to adapt the learning process to their individual needs, it was observed in the rigidity of the class structure, considering that learners must study the material at home and then participate in practical activities and discussions in the classroom, showing that the class structure does not give them the freedom to express their ideas, limiting their ability to understand and apply the concepts learned.

In addition, there was little development of self-regulation skills to learn effectively, because the values of responsibility in their tasks were scarce.

Among the reasons for the use of the flipped classroom, it is recognized that the pandemic was one of the main reasons to start using it, it was necessary to continue with the studies and it was necessary for the students to learn and understand the contents, which resulted in teachers applying the Flipped Classroom model, but inconveniences were observed in its application, due to the lack of training of teachers, it made implementation difficult, in some cases there were no technological resources, nor the Internet, leaving many students out of the process, there was resistance to change to teach and adopt this pedagogical model,

Within this order of ideas, the factual manifestations of the research problem are the verifiable facts, thus, using Flipped Classroom in the subject of Entrepreneurship and Management allows the optimization of time inside and outside the classroom so that students can prepare theoretical lessons at home, record videos, podcasts, slides, allowing both teachers and learners to spend more time in the classroom that can be used to carry out practical activities and resolve possible problems or doubts.

Indeed, implementing learning through Flipped Classroom is putting active learning into practice and allowing students to become protagonists of their own learning, encouraging

continuous participation and collaboration between peers, highlighting the importance of teamwork, sharing their knowledge and experiences in the application of the double flipped classroom, as well as promoting researcher competencies and skills.

It is then suggested that this methodology directly influences the motivation of students because they can learn at their own pace, choose the time, moment and place to study, prepare their classes, adapt learning to the individual needs and preferences of the students.

From the above the question emerges:

How does the flipped classroom contribute to the teaching and learning process?

The object of the research is the teaching process of the double inverted classroom for the optimization of learning in the subject of Entrepreneurship and Management of the first year of unified general high school of the Fiscal Educational Unit "Economista Abdón Calderón".

The general objective is to determine the importance of the double flipped classroom in the globalized educational context. The specific objectives were to substantiate the theoretical contributions of the study, to characterize the real state of the use of the flipped classroom in the educational field, to design the pedagogical model of the double flipped classroom for students of an Ecuadorian educational unit and to assess the feasibility of application and effectiveness of the pedagogical model of the flipped classroom.

The justification of the problem converges in the presentation of the following justifications: Theoretical justification: Based on the use of information sources of the flipped classroom, the use and advantages at an educational level, considering the conceptualizations of experts in the subject and those who have experience in the application of the process; that is, to compile data from studies carried out and the lessons learned in the application of the flipped classroom process.

Methodological Justification: The need to know the degree of acceptance in teachers and students, the online survey technique can be used considering the need to show the degree of acceptance or rejection towards an innovative educational process and interviews with teachers to know the perception of the flipped classroom.

Practical Justification: The implementation of a double inverted classroom project, in which teachers and students participate, is an innovative project that will help ensure that studies continue and that the continuity in the development of the subjects proposed in the study program does not stop. The revision of content can be made more flexible, giving students independence in their way of learning and encouraging the spirit of research so that they gradually build their own learning.

Justification and educational relevance It is represented by the innovative process presented by the double inverted classroom, in the advantages of the participation of tutorial videos from teachers and the feedback from students with their own videos in which they develop knowledge activities on the topics raised. It will contribute to the stage development and strengthen the use of knowledge for research.

In the same context, the scientific questions are: What are the foundations of the theoretical contributions of the study of the flipped classroom? What is the characterization of the real state of the use of the flipped classroom in the educational field? How to design the pedagogical model of the double flipped classroom for students of an Ecuadorian educational unit? What is the feasibility of application and effectiveness of the pedagogical model of the flipped classroom?

The main contributions of the research and its main qualities are presented in the concept of double flipped classroom, in which the learner assumes the role of instructor, recording their own videos, thus having the opportunity to demonstrate the mastery of their competencies, skills, attitudes and values. The double flipped classroom aims to teach how to carry out activities, it is the way to reinforce teaching learning inside and outside the classroom environment (Song et al., 2014). Among the qualities of the project is to apply what Bloom's taxonomy exposes, which proposes the idea of creating, evaluating, analyzing, applying in classrooms, leaving aside memorization and highlighting the importance of understanding what is observed and reflected in the videos made on specific topics.

The above is supported by Gebera (2013), who recommends the implementation of the inverted classroom and digital courses to carry out the virtual educational process according to the globalized technological demands that must be developed to face the educational reality of the 21st century, in which work between peers must be encouraged, collaborating in the realization of school projects and activities to achieve an adequate educational environment.

In the development of the double flipped classroom, the theories and theorists that efficiently contribute to the effective participation of students in the teaching-learning process are recognized (Cortés et al., 2011).

Table 1

Main theories or theoretical results that support the main contribution

Theorists	Theories	Input
Jonathan Bergmann, and Aaron Sams	The flipped classroom theory	Use time outside the classroom to reinforce knowledge, using recorded classes to optimize student teaching and learning
Eric Mazur	Flipped classroom teaching model	Its theoretical foundations are based on students reading, preparing lessons outside of class by accessing the expository and explanatory content of the different subjects from their homes and then presenting the research in class.
Salman Khan	The theory of educational videos to support online learning	The teacher focuses more attention on what the students needed to learn through videos, on the topics they need to study, in such a way that they allow them to use the time in other activities, such as discussing the topic, brainstorming, proposing new ways of learning and making learning more active and participatory.

Sources:Data taken from Ferriman (2023) and Villagas (2020)

In general terms, the development of the flipped classroom is based on theories that have efficiently contributed to education. By implementing this methodology when the student arrives at class, he or she assumes the role of teacher or instructor, explaining all the concepts and definitions that he or she observed in the video and reviewing them as many times as he or she deemed necessary, allowing the student to master and develop many of the skills needed to present the topics. The same thing happens when they become researchers of the topics and apply different strategies to record videos, podcasts, make Power Point presentations, among others, which reaffirm what they researched and assimilated in the learning process.

Methodology

The design, according to its purpose, is applied research because it seeks to improve the teaching-learning process in the field of management and entrepreneurship. According to its approach, it is quantitative, with percentage statistical representations. The data source was field, with data collection at the same time and place that makes it transversal and longitudinal, and its scope is descriptive applied in surveys and describes the object of study.

The methods applied were: deductive, which started from the general conceptualizations of the flipped classroom to the particular application in blended and online classes. The

inductive method with the manifestations from the particular to the general. Adding the analytical-synthetic method, that is, for the analysis, the study variables were separated in the survey to achieve the synthesis at the end of the study to reach conclusions from the new findings. The research technique applied was the survey, whose instrument was a questionnaire.

The population corresponds to the total universe of participants in the phenomenon investigated (Pacheco, 2019, p. 34). In the present research, the population is 120 students who belong to the second year of high school. The sample is a representative part of the population (Muñoz, 2021, p. 27), in this case the selected sample was 40 students belonging to the second year of high school, parallel “A”.

The inclusion criteria are Ecuadorian students and teachers from the second year of high school, parallel “A”, who belong to the “Abdón Calderón” Educational Unit. The exclusion criteria correspond to other high school and other parallel students, who attend other educational institutions and the elimination criteria will be foreign students.

Among the ethical aspects of the research is respect for the confidentiality of the participants' data; authorization was requested from the director of the educational institution, the object of the study.

Characterize the pedagogical model of the flipped classroom

The double inverted classroom pedagogical model is born from the inverted classroom model or Flipped Classroom, it consists of reversing the traditional order of teaching, teacher teaches and student learns, with this methodology, students investigate, carry out activities or tasks outside of class (Chuquimbalqui-Maslucán, 2021), choose the time and hour, acquire knowledge and then explain it in class, learn at their own pace, become independent, develop a reflective sense in research, learn to solve their doubts, deepen the topics and carry out the activities in a practical way.

Figure 1

Pedagogical representation of the flipped classroom



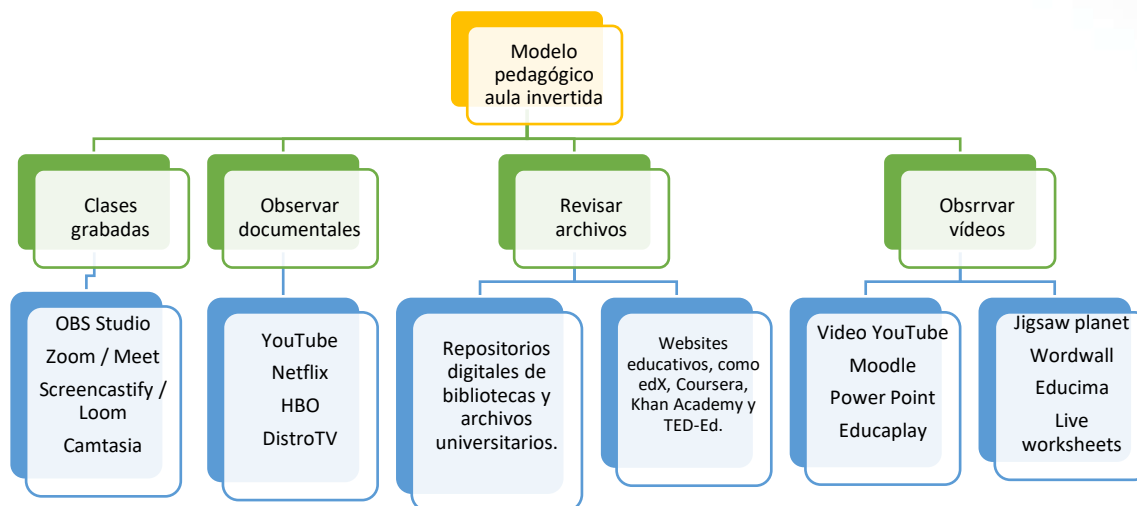
Note: Flipped Classroom Pedagogical Model

Pedagogical model of the double inverted classroom for students of an Ecuadorian educational unit

In the case of the double flipped classroom, a second inversion is made, that is, the order of teaching is reversed at two different times, the teacher teaches in class, the student learns and in turn teaches what he or she has researched, delves even deeper into the topics and encourages collaborative learning, personalizes learning, and the participation of learners. The development of critical thinking skills and reflection on content, improving student performance, increasing interest and commitment in their own learning (Tartaj et al., 2005).

Figure 2

Flipped classroom pedagogical model



Note: Pedagogical Model for the use of the flipped classroom

To characterize the application and effectiveness of the double flipped classroom pedagogical model as a pedagogical tool

Analysis Phase

In this phase, the contemplation of the problem that addresses the fact that students of the educational unit Unidad Educativa Fiscal "Economista Abdón Calderón" have problems of limited interaction, generally prefer to work alone, refuse to collaborate with peers, there is little exchange of ideas, little flexibility in the contents and limits capacity for independence and self-regulation to learn effectively. Therefore, the proposal to provide students with a possible solution that addresses the use of the Double Flipped Classroom is justified, in which teachers record the contents and students can access and download them at the same time and then develop it when they deem convenient, achieving teacher - student and student - teacher feedback, speeding up the teaching - learning process.

Design Phase: Justification

For the authors Ruíz et al. (2018), the use of digital tools has become one of the great challenges that education faces, therefore, it is important to train teachers to contribute effectively to the transformation of traditional teaching into virtual and hybrid teaching so that they can contribute to strengthening knowledge about the use of technology and can design a new approach to educational curricular planning that awakens the interest of students.

It is important to encourage the selection of topics that allow reflection on the content, seeking to have the student order from the most interesting to the simplest, connecting with the reality of the environment in which they operate, so that they become true researchers, with depth in the content.

The educational relevance shows that the proposal to develop the double inverted classroom as a technological tool justifies the practical part because with technological advances, the design of strategies to strengthen hybrid and digital education is required to contribute to educational quality in Ecuador (Bossis et., 2015).

The design phase is composed of the units and contents of the virtual course that were developed using the following technological tools: YouTube, Jigsawplanet, Wordwall, Liveworksheets, Educima, Mentimeter Canva, Quizizz, Autodraw, Genially.

Development Phase

In the development phase of the mobile application as a technological tool, it can be carried out by applying educational content that encourages a learning approach using different tools such as Youtube, Jigsawplanet, Wordwall, Liveworksheets, Educima, Mentimeter, Canva, Quizizz, Autodraw, Genially to perform different tasks that serve as a link to schoolchildren and learn by doing school activities efficiently and effectively.

According to Bermúdez et al. (2019), mobile applications with technological tools such as Youtube, Jigsawplanet, Wordwall, Liveworksheets, Educima, Mentimeter Canva Quizizz, Autodraw, Genially as a whole become part of the Double Flipped Classroom that influences the feedback of the contents of the virtual course with activities that are integrated with the tutor's teachings and the students' learning.

Implementation Phase

Table 2

Entrepreneurship and business management

At the end of the course students will be able to:		
Conduct a SWOT analysis, strategies, business identification, marketing mix		
Learning outcomes by units	Detail of units	Using videos
Encourage the creation of new businesses to undertake	Unit 01: Entrepreneurship -Generation of ideas.	Students must record videos of the theories explained

Table 2
Entrepreneurship and business management (continued)

At the end of the course students will be able to:		
Conduct a SWOT analysis, strategies, business identification, marketing mix		
Encourage the creation of new businesses to undertake	SWOT and Marketing Mix -Financing -Saving -Credit -Education and counseling	Infographic on Canva Mind maps in Mentimeter
Financial education	-Risk and reward -Payment and purchasing skills -Tax and public spending	Quiz: Questions and Answers

Note:Contents for the implementation of the flipped classroom

In the curricular planning, the different competencies, skills, attitudes and values that students must develop must be considered and are reflected in the activities that coordinate with the use of ICT, in particular using the double inverted classroom, in which constant feedback is exposed, the student has the opportunity to demonstrate independence and self-regulation in their learning, becoming the protagonist and builder of their own knowledge.

Evaluation Phase

The idea is that at the end of the course a knowledge assessment is carried out, using digital tools.

Table 3

Evaluation criteria

Performance criteria	Excellent (10-9 pts)	Well (8.99-7 pts)	Regular (6.99-5 pts)	Poor (less than 5 pts)
Student participation in activities	Always carry out activities on the estimated date and time.	Almost always completes activities on the estimated date and time.	Sometimes he/she carries out the activities on the estimated date and time.	Never performs activities on the estimated date and time.
Participation in extracurricular activities	Always participate in extracurricular activities	He almost always participates in extracurricular activities.	Sometimes he participates in extracurricular activities	Never participates in extracurricular activities

Table 3

Evaluation criteria (continued)

Performance criteria	Excellent (10-9 pts)	Well (8.99-7 pts)	Regular (6.99-5 pts)	Poor (less than 5 pts)
Development of project-based learning activities for entrepreneurship	Always develops learning activities based on entrepreneurial projects	Almost always develops learning activities based on entrepreneurial projects	Sometimes develops project-based learning activities for entrepreneurship	Never develops project-based learning activities for entrepreneurship

Note:Evaluation of the proposed classes

Results of the survey conducted with students

To identify the diagnosis, a study was conducted with 40 students, applying the survey technique, through a questionnaire with response options.

Table 4

Survey Results: Question 1

Have you ever used flipped classroom in your academic preparation?	Cumulative Frequency	Percentage Frequency
Yeah	32	80%
No	8	20%
Total	40	100%

Note:Results of the student survey on flipped classroom

In the results, 80% of the students of the general unified high school, parallel "A", of the Entrepreneurship and Management area indicated that they have ever used the flipped classroom in their academic preparation. 20% of the informants stated that they have not used it. In the Chuquimbalqui-Maslucán context (2021), it indicated that the flipped classroom has become one of the most used learning tools due to the freedom given to schoolchildren to carry out their own learning.

Table 5

Survey Results: Question 2

4) Do you consider this methodology useful for your studies?	Cumulative Frequency	Percentage Frequency
Yeah	36	90%
No	10	10%
Total	40	100%

Note:Results of the student survey on flipped classroom

Regarding the usefulness of the flipped classroom, 90% of the responses were positive, stating that this methodology is useful for their studies. Within this same framework, Pérez (2018) stated that hybrid education requires the support of teachers, the commitment of the student to what he or she needs to know, to become independent and self-regulate what he or she needs to learn and how to apply it in each class, thus making the application of the flipped classroom methodology important in the teaching-learning process.

Table 6

Survey Results: Question 3

What elements should a flipped classroom have?	Cumulative Frequency	Percentage Frequency
Videos	20	50%
Games	15	37%
Infographics	3	8%
Debates/Forums	2	5%
Total	40	100%

Note:Results of the student survey on flipped classroom

It is important to mention that 50% of the informants indicated that among the elements that the flipped classroom should have are videos to learn better, 37% stated that games are a way to learn, 8% answered that infographics and 5% said that debates and forums. For Grudin (2018), all these aspects are part of online education, it is what allows to speed up the learning processes, in the case of videos it allows the student to make presentations of what he or she has learned and wants to present, the roles are reversed and the student is the one who explains what was investigated.

Table 7

Survey Results: Question 4

What type of assessments should the flipped classroom have?	Cumulative Frequency	Percentage Frequency
Summative	32	80%
Formative	8	20%
Total	40	100%

Note:Results of the student survey on flipped classroom

In the research, 80% of students prefer summative assessments as part of learning, and 20% indicated that they like formative assessments as part of the teaching process. This was confirmed by Fernández (2022), who indicated the need for knowledge to be assessed in different ways, some immediately, others after the presentations.

General Analysis of the Survey

In the results, 80% of the students of the general unified high school, parallel “A”, of the Entrepreneurship and Management area indicated that they have ever used the flipped classroom in their academic preparation. 20% of the informants stated that they have not used it.

The results confirm that students use Flipped Classroom and take advantage of it to carry out practical activities and solve possible problems, therefore, there are possibilities of implementing learning through the double inverted classroom to contribute to active learning.

Regarding the usefulness of the flipped classroom, 90% of the responses were positive, stating that this methodology is useful for their studies. The use of Flipped Classroom encourages continuous participation and collaboration between peers in the learning process, because it allows them to learn and put it into practice in their activities.

Regarding the use of the flipped classroom, videos are used to learn better, 37% stated that games are a way to learn, 8% answered that infographics and 5% said that debates and forums.

The results of the research indicate that there is experience in the use of Flipped Classroom and can apply it as a pedagogical model in the teaching and learning process in the subject of Entrepreneurship and Management of the first year of unified general high school of the Fiscal Educational Unit "Economista Abdón Calderón", because better use can be made of the time for the practice of learning, that is, students learn the theory or by reviewing content and in this way interaction with the teacher and their classmates can be encouraged, strengthening interest, starting the discussion of the contents and the exchange of ideas (Aldana et., 2016).

In the research, 80% of students prefer summative assessments as part of learning and 20% indicated that they like formative assessments as part of the teaching process.

The findings show that it is possible to contribute to the development of self-regulation skills in order to learn actively and effectively. It is observed that applying the flipped classroom allows students to download all the material when they have internet and decide when and where to review it.

Conclusions

- The conclusions set out the fulfillment of the objectives set, such as the foundation of the theoretical contributions of the study that are represented in the background and the theories that contributed to the development of the topic. In relation to the

characterization of the real state of the use of the inverted classroom in the educational field, it was evident that it is used, but its continued use needs to be developed and encouraged, assessing the advantages and correcting the disadvantages.

- In the design of the double inverted classroom pedagogical model for students of the “Econ. Abdón Calderón Muñoz” educational unit, the order of teaching is reversed in two moments, considering that the teacher teaches in class, the student learns and at a certain moment the student teaches what he/she researched, deepens the content and encourages collaborative learning.
- The double flipped classroom overcomes the lack of interaction with the teacher and classmates, undoubtedly contributing to discussion and the exchange of ideas, there will be greater participation, development of critical thinking and the application of the concepts learned. It contributes to developing self-regulation skills and independence to learn more effectively.
- In conclusion, students can apply the double flipped classroom, which will allow them to participate in each class, achieving feedback on the contents researched and presented in recorded classes, in the development of infographics, mind maps, conceptual maps, organizational charts, flow charts, among others that improve the teaching-learning process, in the area of entrepreneurship.
- Finally, the feasibility of the application and effectiveness of the flipped classroom pedagogical model affects the participation of learners, strengthening the skills of critical thinking and reflection on the content that increases interest and motivation towards their own learning.

Conflict of interest

The authors declare that they have no conflicts of interest.

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