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Pedagogical Mediation in the Use of Hybrid Classrooms at the Universidad Veracruzana:
An Exploratory Study from the Teachers' Perspective

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Resumen – La finalidad de este artículo es caracterizar el desarrollo del proceso educativo universitario. Es una investigación cualitativa y cuantitativa acerca de la mediación pedagógica en el uso de las aulas híbridas para docentes de posgrados y licenciatura de la Universidad Veracruzana de la Región Xalapa. Investigación que permite reflexionar sobre el carácter de la mediación pedagógica que se realiza en los procesos de enseñanza-aprendizaje. Se obtuvo una muestra de 26 docentes que permitió conocer la perspectiva de dicho proceso, para concluir con un análisis interpretativo. Los resultados del estudio exploratorio permiten establecer algunas pautas para mejorar o cambiar el desarrollo educativo en base a la implementación de una mediación pedagógica estratégica que permita un aprendizaje con sentido en las aulas híbridas.

Palabras clave – Mediación Pedagógica, Aulas Híbridas, Proceso Educativo; Aula Invertida; Tecnología Educativa.

Abstract – The purpose of this article is to characterize the development of the university educational process. It is a qualitative and quantitative investigation into pedagogical mediation in the use of hybrid classrooms for graduate and undergraduate teachers at the Universidad Veracruzana in the Xalapa Region. This research allows us to reflect on the nature of pedagogical mediation in teaching-learning processes. A sample of 26 teachers was obtained to understand their perspectives and conclude with an interpretative analysis. The results of the exploratory study establish some guidelines for improving or changing educational development based on the implementation of strategic pedagogical mediation, which enables meaningful learning in hybrid classrooms.

Keywords – Pedagogical Mediation, Hybrid Classrooms, Educational Process; Flipped Classroom; Educative Technology.

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INTRODUCCIÓN

> *"…We still have to learn the art of living in a world oversaturated with information. And we must also learn the even more difficult art of preparing the next generations to live in such a world."*
>
> *ZYGMUNT BAUMAN*

The COVID-19 pandemic has impacted various regions and sectors globally, including the educational system, which had to adapt to this health contingency, particularly in the modalities of educational development and operation. As mentioned by Pizan et al. (2020), the need for social distancing led to an urgent application of technology, shifting from in-person activities to intensive use of Information and Communication Technologies (ICT) to continue interacting with students at all educational levels. The primary goal was to maintain the continuity of established study programs and plans in the face-to-face modality.

In this case, the Universidad Veracruzana, through its 2021-2025 Work Program (PT), responded to this new challenge while keeping in mind one of the Sustainable Development Goals of the 2030 Agenda: to ensure inclusive, equitable, and quality education and promote lifelong learning opportunities (ONU, 2015). Within this framework, the institution implemented videoconferencing tools such as Zoom and Teams, intensifying the use of the Flexible Learning Environment Management System, also known as the EMINUS platform, as an additional tool for facilitators and students.

Additionally, the Universidad Veracruzana promoted the provision of pedagogical training courses for its teachers through the Department of Academic Training of the General Directorate of Academic Development and Educational Innovation (DGDAIE). These courses covered topics such as the use of Information and Communication Technologies (ICT), designing open educational resources to support learning, digital knowledge, inverse didactic planning, digital teaching and learning tools, and developing mini-videos as didactic resources, among others.

Undoubtedly, the decisions made by the university officials align with the 2021-2025 Work Program:

> Knowledge creation and transfer require short, medium, and long-term vision and planning for timely and relevant decision-making that benefits our students, the university community, and the society of Veracruz (Universidad Veracruzana, 2022a, p. 9).

During these pandemic years, there were intrinsic changes to continue educational processes and thus contribute to the comprehensive training of students. This new shift is known as the "new normal," which includes the use of hybrid classrooms, involving the implementation of online activities that allow physical and online interaction between teachers and students through planned and structured sessions. One of the criteria mentioned by UNESCO is that "we have accepted the unacceptable for too long. Our previous reality can no longer be accepted as normal. Now is the time to change" (2020, pp. 1).

It is undeniable that this new normal does not relate to what was considered "habitual"—a traditional view. Rather, it breaks with routine and opens different possibilities and perspectives for developing educational processes for the training of students in the "emerging era," with innovative pedagogical dimensions:

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instructional proposals, didactic designs, interaction-communication models, content deployment, and evaluation aimed at developing motivated and autonomous learning in university students (Sierra, 2015).

Currently, teachers face another challenge: the use of hybrid classrooms, also known as flipped classrooms—a combination of online and in-person formats—that involves the integration of different technologies, planning, and pedagogical mediations. Rama (2020) points out that this is indeed a challenge because learning under the digital educational dynamic involves multiple interactive environments and imposes new configurations in the processes to generate them, particularly in the pedagogy used for synchronous or asynchronous flipped classes. This requires innovative processes and pedagogical interventions by teachers to facilitate students' journey and training in the digital realm. It is not merely a matter of transferring teaching to virtual environments, but rather promoting learning within them (Blanco et al., 2018).

In this vein, the UV formally inaugurated 430 hybrid classrooms in August 2022 to serve the five university regions, emphasizing that the goal of these classrooms is:

> To organize a coordinated and quality educational action based on research and active learning, leveraging the open, distributive, and horizontal nature of technology not only as a campaign to repair the damage caused by the pandemic but also as an important renewal effort (Universidad Veracruzana, 2022b, p. 2).

These new policies and institutional guidelines create diverse scenarios for educational transformation in the context of the new normal, emergent learning environments, and the use of multiple media to establish interactions between teachers and students. They enable the practice of thematic content, strategies, and innovative teaching and learning resources supported by new physical and digital facilities: *hybrid classrooms*[1], where two types of environments converge: face-to-face learning and distributed learning (Osorio, 2011).

However, it is not only infrastructure that is required to achieve institutional objectives but also the convergence between infrastructure and the mediating function. In other words:

> Pedagogical mediation should bridge the gap between the student and knowledge, between what they know and don't know, their prior experiences and concepts, their present and future, giving meaning to the educational act (Gutiérrez & Prieto, 1999, p. 177).

Where mediation helps facilitate, guide, or regulate processes in educational practice, contributing to student learning at specific times and achieving the development of specific competencies. For this, educational institutions need to train both faculty and students in using virtual and in-person environments to design virtual study platforms. This way, high-quality human capital is formed, promoting the country's productive development (Saavedra et al., 2021).

In this educational scenario of the past nearly four years, questions arise that problematize the new normal, different access to school spaces, and specifically the use of hybrid classrooms. These questions include: What are

[1] Virtual education presents a completely different scenario with the incorporation of the hybrid classroom concept, where the teacher must overcome space-time barriers using digital technologies. In other words, learning takes place exclusively through the network in its two asynchronous modalities (Triyason et al., 2020, cited by Saavedra et al., 2021).

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the pedagogical foundations that mediate emergent learning? Is there adequate training to face these rapid changes in teaching and learning? In summary, how is pedagogical mediation —didactic-pedagogical dimension— used by teachers in a hybrid classroom to develop the planned competencies of the students?

Therefore, we consider it imperative to investigate this relationship (pedagogical mediation – hybrid classrooms) to find answers to the previous questions. Specifically, the objective of this research is to explore and characterize how pedagogical mediation and the development of the educational process, as an experienced intervention, are used by teachers in the graduate and undergraduate programs offered in the Xalapa region of the Universidad Veracruzana.

Pedagogical Mediation and the Role of Teachers with New Generations of Students

> *It is not possible to educate the new generations without using the technologies that unite and define them as a generation.*
>
> *RAMÓN FERREIRO*

In the previous paragraphs, pedagogical mediation has been mentioned, but what do we mean by it? There are various definitions, among which the one by Gutiérrez and Prieto (1999) stands out. They consider it as: "...the treatment of content and forms of expression of different topics to make the educational act possible within the horizon of an education conceived as participation, creativity, expressiveness, and relationality" (cited by León 2014, p. 141), to generate in learners the desire to learn. In this context, the teacher plays a fundamental role, being conceived, among other things, as the "mediator, constructor, adapter, guide, motor, transformer..." (Tébar, 2017, p. 96) of the formative process.

Therefore, we consider that the Pedagogy of Mediation provides valuable elements in various forms of transmission, training, and intervention that the teacher can adopt with students (Tébar, 2017)[2]. These forms of intervention should focus on today's type of students, this new generation called "N" and Millennials, who have adopted new ways of learning, such as learning a language or producing music through a platform. They were born and grew up with new ICTs, where the network and the internet influence their behaviors and temperament. As Ferreiro (2006) mentions, "the generational formula seems to be: with the computer and the internet everything, without them practically nothing" (p. 78). Hence the importance of leveraging the virtual and mixed modalities in the educational process to meet, additionally, students' desires to learn flexibly, quickly, and with creative and engaging teachers.

Therefore, one of the new possibilities that universities have through hybrid models is the "transformation of learning and teaching schemes, where knowledge undoubtedly needs stimuli and reinforcements to create conditions that hybrid classrooms demand to adapt technological resources in line with pedagogical strategies" (Hernández et al., 2021, pp. 59–60). However, it is not about discarding the traditional and continuing to do the same with cutting-

[2] "Reducing education to instruction is a significant deficiency, devoid of all meaning if we believe that education is not about filling minds but helping the person emerge in their fullness and develop comprehensively" (Tébar, 2017, p. 79).

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edge technologies. "Rather, it is about designing new learning environments in accordance with the state of the art of contemporary sciences and technologies" (Ferreiro, 2006, p. 83).

As teachers, these new possibilities involve adapting—digitalizing teaching—to new pedagogical concepts, ways of being and acting, different planning and organization of knowledge—instructional designs, creating strategies and resources with the support of ICTs to establish communication, connection, and interaction, motivate, and evaluate the achievements that help students become autonomous, make decisions about approaching and constructing new knowledge applicable in a variety of practical situations, to the extent that they develop the competencies to be the actors of their own lifelong learning.

To achieve success in virtual environments and cover both face-to-face and virtual learning, "the teacher needs to acquire skills, knowledge, and competencies related to pedagogical, communicational, technological, and evaluative aspects" (Camacho et al., 2017, p. 4). This implies clear and consistent redesigns, as it is not about merely selecting and uploading materials and videos to technological platforms—commonly known as a PDF file laundry line—but rather provoking students to learn, share, and discuss the contents and resources used, and provide feedback among all participants in the process. This should be done holistically, responding to the generational context, epistemological approach, content, methodology, and pedagogical mediation strategy that contributes to meaningful learning (Calderón-Meléndez, 2020).

Pedagogical Mediation through the Hybrid Model

As mentioned, hybrid education is defined as a multimodal educational model that integrates teaching with virtual environments by constructing a curriculum that aligns in-person and virtual experiences. It employs digital resources to enable synchronous and asynchronous dialogue through a mixed mediation implemented by information technologies to create virtual and physical environments that facilitate learning (Rama, 2020). This new heterogeneous teaching model has gained strength and presence at various educational levels due to its flexibility, collaborative work, and personalized teaching that meets the needs and interests of learners. From this perspective:

> Hybrid classrooms are characterized by the duality of their teaching modality, meaning that students engage in academic activities both in school and outside of it. These classes use online tools through remote learning platforms and other virtual learning management systems for use outside the traditional school environment and are complemented by the in-person modality (Bonderud, 2021, in Saavedra et al., 2021, p. 168).

Alternatively, they are characterized by supplementing some classroom learning activities using the internet, incorporating technology into classes with multimedia resources. According to Sigalés (2020) and, Galvis and Duart (2020), in Saavedra et al. (2021, p. 168):

> This hybrid model can be beneficial to the extent that it can determine what should be developed in person, what is more productive and beneficial to work on through virtual environments, and finally, how each form of this heterogeneous teaching can be organized.

What elements and approaches should be considered to mediate in a hybrid classroom? The main elements to consider are that teaching, and feedback occur at the learners' pace, and that content is distributed harmoniously and meaningfully for both platforms use and in-person sessions. These sessions should be significant and engaging to reduce academic dropout and bridge the gaps between learning and socioeconomic level (Arias et al., in Saavedra, 2021). It is not simply about alternating between in-person (real-time) and virtual (with technological applications) moments, but rather, through pedagogical strategies adapted to the students' needs, the teacher becomes the manager of the school experience and generates interest in learning opportunities.

This way of being, acting, and communicating in the educational process aligns with the constructivist and socio-constructivist approach by centering its methodology on didactics to identify and choose strategies and technological resources according to the discipline (Saavedra et al., 2021). It also involves the instructional design of the course, with its implications for identifying the teaching-learning paths that lead to the development of competencies and performances to be demonstrated by students. It is precisely under this approach and modality that ICTs represent a significant challenge for higher education in the "directed" use of hybrid classrooms.

However, the use of hybrid classrooms, and even fully virtual modalities, has revealed some limitations that need to be addressed to avoid diminishing the educational process. Although new generations are digital natives, these modalities have been partially utilized for educational purposes. Some significant limitations include students feeling isolated, unmotivated, and lacking constant support from teachers; lack of clarity in instructions for both in-person and online sessions; confusion about the purpose of certain activities; the use and objectives of digital resources and tools; accessibility to these resources; time to complete tasks; minimal or no interaction between peers and teachers; little to no feedback on their progress during the course; and lack of understanding of the evaluation system, both in in-person and online sessions.

These limitations must be addressed by those responsible for the education and training of students, as Galvis (2019) notes in Saavedra et al. (2021), every user of a digital platform must know and recognize the positives and negatives of these platforms, as they can act as a differentiator or advantage during sessions for cognitive development.

Therefore, the role of teachers in the educational act through hybrid classrooms is crucial. They must commit to and promote pedagogical mediation, model and outline both in-person and virtual environments and create both in-person and remote pedagogical interactions. This will ensure that the learner effectively develops and self-regulates their learning through cognitive strategies and systematic, organized work habits (León, 2014) in their formative process.

Based on the above and what has been studied on the subject, we mention some characteristics that a pedagogical mediator in the use of hybrid classrooms should possess:

1. Develop skills to dialogue and interact about the knowledge to be learned, fostering perseverance, study habits, and metacognition in students (understanding why they do what they do and the advantages of doing it).

Interconectando Saberes, Año 9, Número 18, julio-diciembre de 2024, 87-100
ISSN 2448-8704 doi: https://doi.org/10.25009/is.v0i18.2924

2. Encourage students' curiosity to learn new concepts and techniques, and to approach real and everyday problems to develop divergent thinking.
3. Create pleasant and trusting environments in the educational process, stimulating values such as freedom, equity, inclusion, and respect for all.
4. Diversify teaching methods, techniques, and pedagogical resources according to the needs of the learners.
5. Use clear and precise language—effective communication—that allows the teacher and the learner to achieve the maximum possible understanding.
6. Evaluate as a form of feedback, actively and meaningfully: diagnostically to identify the starting point; formatively to modify what is necessary in a timely manner and incentivize what has been achieved in the educational process; and summative to give quality meaning to the performances and achievements of the learners.

Finally, we emphasize that to develop the described characteristics in the use of hybrid classrooms, ICTs should be considered a resource for creating virtual learning environments. They are the means or platforms that allow learning conditions to be developed (Blanco et al., 2018), and they should be valued not as an end, but for their characteristics and applicability in the pedagogical process. This contributes to lifelong learning (García-Bullé, 2019).

METHODOLOGY

To answer the research questions formulated and achieve the proposed objectives of this study, the methodological strategy was developed in three phases: 1) selection of the theoretical-conceptual framework and the organization and systematization of information; 2) design and application of the instrument to collect and record information and 3) application of analysis and interpretation techniques to the information from the results and conclusions.

This research is exploratory and both qualitative and quantitative. Therefore, the results are not representative but significant. The selection of the pilot sample is intentional: 26 active graduate and undergraduate teachers from the Economic-Administrative Area, with experience in educational processes in hybrid classrooms, from the February – July 2024 school period.

As a method of information collection, a questionnaire was developed for teachers from the cited period using the Google Forms platform. The intention was to investigate five dimensions of analysis to characterize pedagogical mediation in the use of hybrid classrooms:

1. Instructional design: Assess the synchronization of in-person and online activities through course planning design—structure and organization of the course, management of various interactive activities and time, accessible content, design strategies for in-person and virtual learning environments, and achievement of course objectives (5 questions).

2. Use of digital resources and media in hybrid classrooms: Identify the various formats and resources used by facilitators to strengthen content, such as videos, readings, discussions, and practical activities, and determine if these are aligned with the learning objectives (2 questions).
3. Feedback and interaction among educational process participants: Determine the mechanisms used by the teacher to facilitate interaction through various resources and tools for in-person and online sessions. Also, verify if the teacher provides constant and constructive feedback on student performance (2 questions).
4. Communication and motivation: Investigate the teacher's communication with students, their availability to resolve doubts, and their clarity in directions and instructions for completing and submitting activities, evaluations, and established schedules for synchronous and asynchronous sessions. Additionally, explore the strategies that keep students motivated and attentive to meet the challenges of their own learning in this modality.
5. Evaluation and learning outcomes: Identify the type and variety of evaluation methods used by teachers to achieve the course's learning objectives and determine if these are considered fair and equitable by the students. These include, for example, online assessments, collaborative projects, and practical evaluations.
6. For the statistical treatment of the information, frequency tables were used to observe the most common and least common behaviors for each of the dimensions studied.

RESULTS

The findings of this research allow us to reflect on and interpret the nature of the strategic pedagogical mediation carried out to develop the educational process in the use of hybrid classrooms.

The results of the teacher survey show that 58% of the respondents are women, while 42% are men. Of the teachers interviewed, 50% teach undergraduate courses, 31% teach master's courses, 15% teach doctoral courses, and 4% teach specialty courses. Additionally, 85% have more than 10 years of experience, and 78.5% have taught at least one course in a hybrid modality.

Regarding the dimension of instructional design, it is interesting to note that 81% of the teachers interviewed have received some training from the institution; however, 43% consider this training insufficient. A total of 92.3% have received training from UV through the Academic Training Program (PROFA), 46.2% through self-research, 26.9% using the results of student evaluations, 15.4% through seminars and/or discussion panels, and 11.5% by following up on the results of the use of technological media and resources applied to students in the hybrid modality.

Regarding the time spent preparing a hybrid class, 42% spend between 1% and 30% of their time, 50% between 31% and 60%, and the remaining 8% more than 60% of their time.

As for the purpose of using the hybrid modality, as shown in Figure 1, a large majority of the respondents use it to reinforce some content (65.4%), for discussion or debate forums (50%), and to record sessions for students to review later (42.3%). Very few use it for event participation, improving collaboration, flexible learning, or access to global digital resources (3.8%).

Interconectando Saberes, Año 9, Número 18, julio-diciembre de 2024, 87-100
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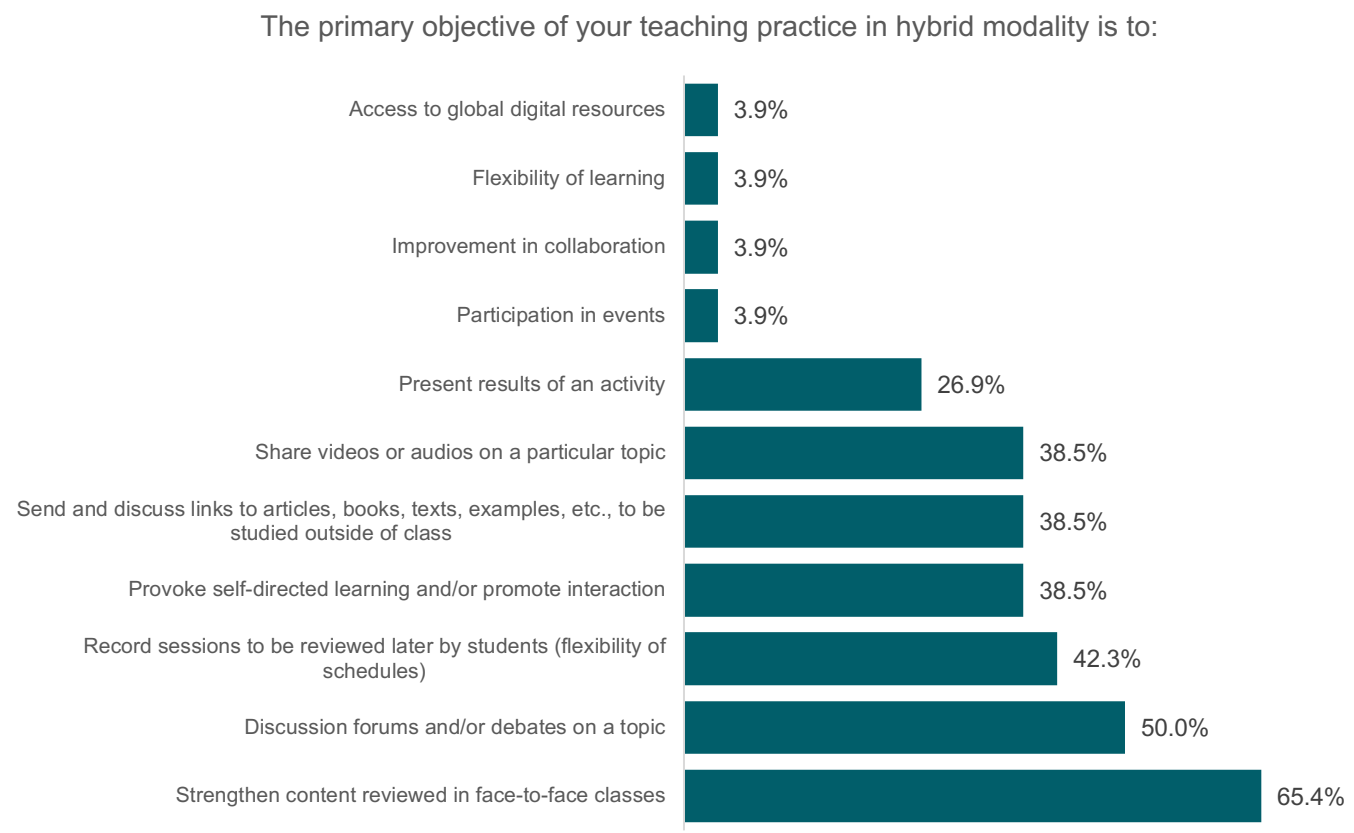
Figure 1

Primary objective in the hybrid modality



Note: Own elaboration based on the applied questionnaire. The questionnaire allows for multiple options to be selected; hence the sum of the percentages does not add up to 100%.

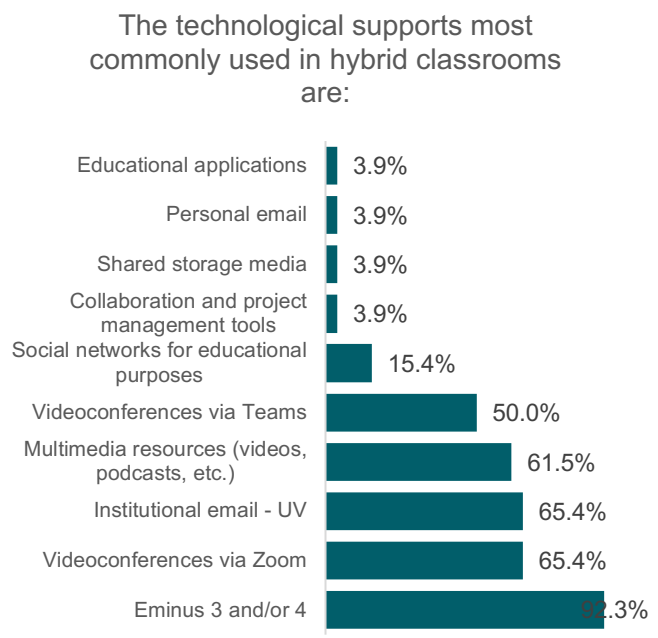
When students have specific questions, the strategies to resolve them are: virtual and/or in-person sessions (57.7%), offering activities, online examples or article links (57.7%), personalized task reviews and feedback (53.8%), and providing supplementary bibliography on a technological platform (50%). Only 26.9% use complementary resources for more complex topics.

In summary, the instructional design dimension has strengths such as the number of teachers trained in the use of hybrid classrooms, the time teachers dedicate to preparing hybrid classes, and the use of the modality to reinforce content reviewed in face-to-face classes and discussion forums and debates on various topics. Areas of opportunity include the need for quality training and leveraging the hybrid modality for other purposes, such as flexible learning and improved collaboration.

Regarding the dimension of the use of digital resources and media in hybrid classrooms, the technological supports most used in the hybrid classroom are Eminus 3 and 4 (educational platforms of Universidad Veracruzana) with a significant majority (92.3%), followed by Zoom videoconferences and multimedia resources such as videos and podcasts. In contrast, shared storage media, collaboration and project management tools, personal email, and educational applications are reported to be used the least (see Figure 2).

Figure 2

Technological supports in the hybrid modality



Note: Own elaboration based on the applied questionnaire. The questionnaire allows for multiple options to be selected; hence the sum of the percentages does not add up to 100%.

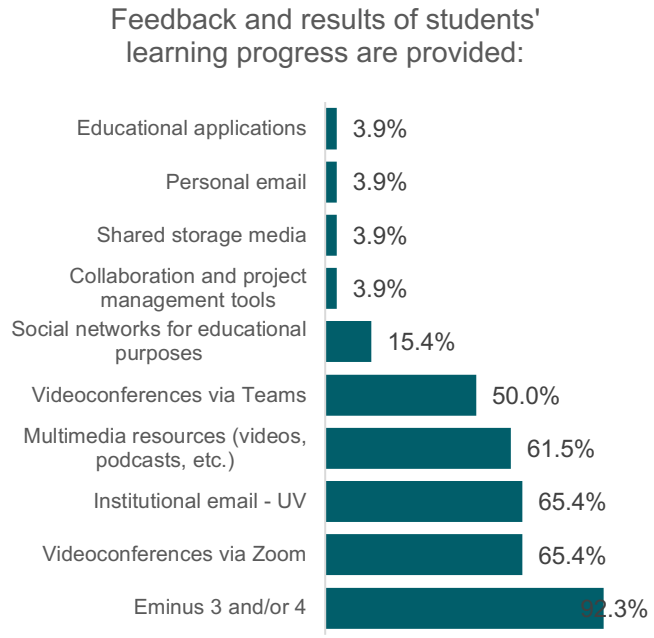
Regarding additional supports for student learning used by the interviewees, PowerPoint presentations stand out (69.2%), followed closely by supplementary bibliography (61%). A large majority also use case studies for teamwork (46.2%). Real-life examples, counterexamples (34.6%), mini-videos (30.8%), and online specialist conferences (30.8%) are moderately used, while in-person specialist conferences (15.4%) and podcasts (11.5%) are the least used resources.

In summary, in the dimension of the use of digital resources and media in hybrid classrooms, a major strength is the use of Eminus as a learning platform and PowerPoint presentations. An area of opportunity is the utilization of shared storage media and collaboration and project management tools, as well as the use of mini-videos and podcasts as additional learning strategies.

In the dimension of feedback and interaction among the actors in the educational process (see Figure 3), the respondents provide feedback and offer results on learning progress primarily in person and individually (65.4%) and very rarely through group email (7.7%).

Figure 3

Feedback and results of learning progress in the hybrid modality



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The promotion of student participation is primarily achieved by actively encouraging students to contribute to discussions and activities (61.9%), fostering an environment of respect and acceptance for all opinions (53.8%), and promoting collaboration in online projects (50%). In contrast, tailoring teaching strategies to individual student needs (23.1%) and promoting synchronous and asynchronous activities (3.8%) are the least used strategies.

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In summary, in the dimension of feedback and interaction among the actors in the educational process, strengths include group and individual in-person feedback and the promotion of participation by teachers. Areas of opportunity include leveraging collaborative reviews between teachers and students through virtual forums, as well as promoting synchronous and asynchronous activities.

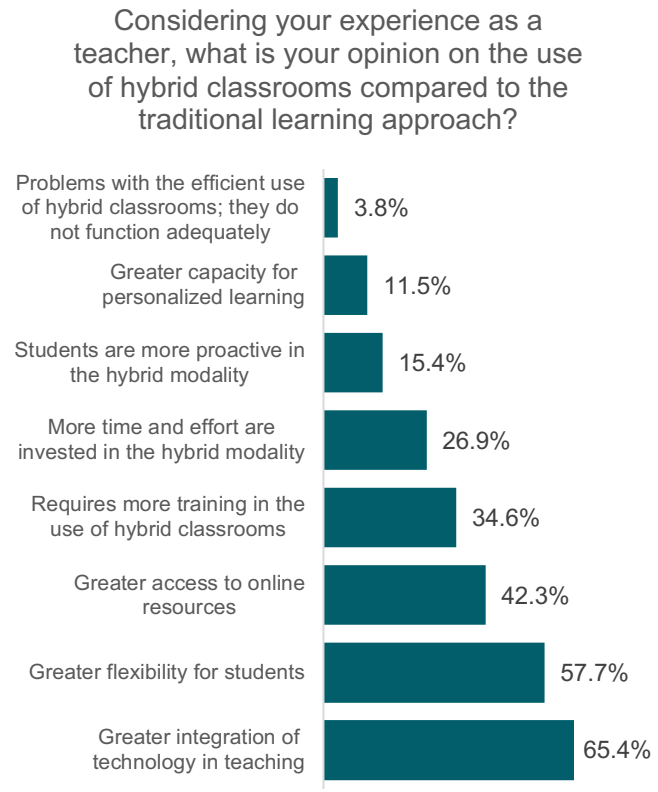
Regarding communication and motivation, important factors for maintaining attention in the hybrid modality are communication channels, as well as schedules for in-person or virtual sessions, deadlines, and addressing questions. These are mostly communicated in in-person sessions (61.5%), while 30% to 40% of the respondents communicate them as the course progresses or during online sessions within the course.

In Figure 4, the opinion of the interviewed teachers about the use of hybrid classrooms compared to the traditional learning approach shows that the vast majority believe there is greater integration of technology in teaching (65.4%) and greater flexibility for students (57.7%). It is noteworthy that 34.6% believe hybrid classrooms require more training, and 26.9% think that more time and effort are invested.

In summary, in the dimension of communication and motivation, the strengths identified include in-person communication and the facilitator's perspective of greater integration of hybrid classrooms as a process of unifying technology in teaching and providing flexibility for students. Areas of opportunity include the use of online communication and personalized learning.

Figure 4

Use of hybrid classrooms compared to the traditional learning approach



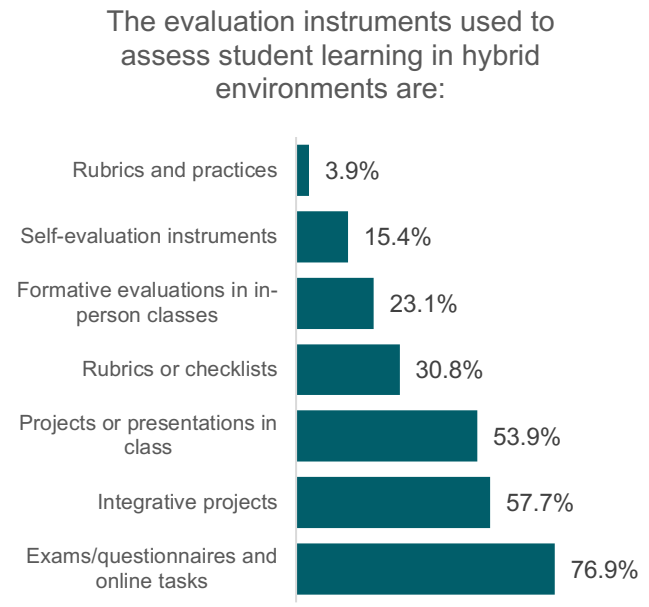
Note: Own elaboration based on the applied questionnaire. The questionnaire allows for multiple options to be selected; hence the sum of the percentages does not add up to 100%.

Of the respondents, 92.3% consider their teaching practice in a hybrid modality to be positive.

Finally, regarding evaluation and learning outcomes, the course evaluation criteria are communicated at the beginning of the course (96.9%), with very few leaving them stated on the flexible learning platform (3.8%). A low percentage communicates these evaluation criteria when the student asks or at the beginning of the activity/topic/unit (3.8%). Regarding the instruments used to assess students in hybrid environments (see Figure 5), exams, questionnaires, and online tasks are the most prominent (76.9%), while rubrics and practicals are the least used (3.8%).

Figure 5

Evaluation instruments in the hybrid modality



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As a general finding, based on their experience, 88.5% of the interviewed teachers report positive progress of their students using the hybrid modality.

CONCLUSIONS

This research evaluated teachers' opinions on the educational process using hybrid classrooms post-pandemic, aiming to characterize the pedagogical model used. Even though the academic entities in the economic-administrative area, in their undergraduate and graduate programs, have robust hybrid classroom infrastructure, these are not utilized to their full potential in practice.

From the applied questionnaire, it emerges that in the five analyzed dimensions, the pedagogical mediation of the interviewed teachers in the hybrid classroom has strengths such as: the number of teachers trained in using hybrid classrooms, the time teachers spend preparing the hybrid class, the use of the modality to reinforce content reviewed in face-to-face classes, the use of Eminus as a learning platform, PowerPoint presentations as additional learning support, group and individual in-person feedback, and the promotion of participation by facilitators.

In contrast, there are areas of opportunity that could be useful for improving pedagogical mediation: the need for quality training in the use of hybrid classrooms, leveraging the hybrid modality for other purposes such as flexible learning and improved collaboration, utilizing shared storage media, and collaboration and project management tools, using mini-videos and podcasts as additional learning strategies, enhancing collaborative reviews between facilitators and students through virtual forums, promoting synchronous and asynchronous activities, and using the platform to post session schedules and evaluation methods.

In the current post-pandemic era and given the urgency of migrating to virtual environments, it is important to recognize that regardless of the modality for conducting university education, it must be ensured that it is adequate and has the necessary resources for its development (classrooms equipped for clear and echo-free sound, high-capacity internet, computers with current technological innovations, screens, sufficient connectivity, computer accessories, among others), always with a view to continuous improvement. However, the repositioning of educational institutions in the multimodal use of their educational practices must respond to current social, technological, and labor contexts, as well as the needs of current generations, always considering the learning needs of students as part of the Mission and Vision of the universities.

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As a result of the research, we believe that to guarantee quality education, it must not only include investment in digital institutional infrastructure but also enhance the necessary academic effort to facilitate greater quality, inclusion, and flexibility in student learning. Additionally, the development of digital competence today is a requirement for both personal and professional development. What is at stake is the university's raison d'être: to promote the training of professionals in intellectual, professional, social, and human dimensions, fostering new ways of being, doing, and coexisting on a planetary scale. This ensures that graduates possess the competencies required by the society we serve.

Therefore, we conclude that if the trend at the Universidad Veracruzana leans towards virtual and/or hybrid education to leverage and optimize the current infrastructure (hybrid classrooms, internet, EMINUS platforms, Zoom, Teams, among others), it will be necessary to improve the digital skills of teachers and students with a pedagogical-didactic focus—drawing on the foundations of constructivist theories—for the responsible and active use of digital media, as it is an essential component of contemporary university education.

It is noteworthy that 92.3% of the interviewed teachers consider their teaching practice in a hybrid modality to be positive, coupled with the fact that 88.5% report positive progress of their students using the hybrid modality. This indicates that teachers are gaining confidence in this new modality.

Finally, it is necessary to state that there is no ideal modality, but there are better and optimal uses, practices, and adaptations according to contexts, moments, needs, tools, teachers, and specific groups of students. Therefore, the use of other modalities would contribute to fulfilling Axis 3: Teaching and Academic Innovation, of the current Rectoral Work Program, specifically in Goal 3.2.1.2 "Achieve by 2025 that 100% of educational programs make use of non-conventional higher education modalities" (Universidad Veracruzana, 2022a, p. 86). In this way, the implementation of study plans and programs in in-person, virtual, and mixed (hybrid) modalities could be increased, making this an institutional policy of the Universidad Veracruzana.

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