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Original Article

Hybridization and challenges of DE in higher education

Hibridização e desafios da EaD na educação superior

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Abstract

The topic of this study is the possible potential of hybridization and development of digital skills to overcome challenges of distance education (DE) related to the effects caused by student isolation. The research is basic, exploratory, and web-based, with a mixed methods approach and survey methodology. This is a cutoff performed from a literature review involving 301 studies between 2012 and 2022 on how to deal with isolation in distance education (DE). Forty-seven studies addressing hybrid education were selected. The study concluded that there is potential in hybridization assisting in reducing student isolation.

Keywords: Hybrid education; DE; Isolation; Digital skills; Higher education.

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Resumo

O tema deste estudo é o eventual potencial da hibridização e do desenvolvimento de competências digitais para superar desafios do ensino virtual relacionados aos efeitos causados pelo isolamento do aluno. A pesquisa é básica, exploratória e realizada na internet, com uma abordagem de métodos mistos e metodologia *survey*. Trata-se de um recorte realizado a partir de uma revisão de literatura envolvendo 301 estudos entre 2012 e 2022, sobre como lidar com o isolamento na educação a distância (EaD). Foram selecionados 47 estudos que abordam a formação híbrida. O estudo concluiu que há potencial na hibridização para auxiliar na redução do isolamento do aluno.

Palavras-chave: Ensino híbrido; EaD; Isolamento; Competências digitais; Educação superior.

1. Introduction

Distance learning is not easy. It involves a process that entails paradigm shifts and the development of specific competencies and skills, largely tied to adequate training that enables the individuals involved to adopt behaviors and attitudes contributing to their knowledge construction. Thus, distance education may face challenges due to a variety of factors associated with student and instructor behavior, as well as actions (or lack thereof) by Higher Education Institutions (HEIs). Therefore, this brief study aims to present and discuss the causes of some challenges related to student isolation, and its consequent dropout, low performance, or non-re-enrollment in distance courses, as well as to propose some strategies to overcome them.

It is important to emphasize that the present study is part of a larger research context, conducted through a systematic literature review, aiming to map the causes, characteristics, and strategies to combat isolation in distance education (DE) in higher education based on research conducted between 2012 and 2022. The consulted databases included Eric, Education Source, Cairn, Erudit, and Teacher Reference Center.

Out of the 301 selected works, the focus of the study presented here selected 47 articles involving hybrid education. The goal is to provide reflections on the potential contribution of hybrid learning to assist in addressing student isolation and its consequences for successful distance courses.

This study begins by identifying challenges for learning in distance education (DE), related to those involved in the teaching-learning process, namely students and teachers. Next, it addresses some strategies to facilitate learning, highlighting the development of digital competencies and the contribution of the hybrid model. Furthermore, it discusses the importance of interaction to deal with isolation and continue learning, as well as the value of adopting strategies in which learning communities are created to assist in the teaching-learning process, highlighting challenges and viable approaches in Massive Open Online Courses (MOOCs) and during the confinement period caused by the Covid-19 pandemic. Finally, some conclusions reached through this study are presented.

2. Challenges for Learning in Distance Education (DE)

The feeling of isolation that affects the student presents itself as a significant challenge for learning in DE, resulting from a combination of factors such as feeling like the only one studying the subject, feeling displaced, feeling disconnected or forgotten, as well as a sense of working in a vacuum, with minimal feedback or engagement, or feeling unaffiliated or not part of the educational institution (RUSH, 2015). The origin of these obstacles may be related to everyday attitudes of both the student and the teacher, as discussed below.

2.1. Students

Regarding student action, it is noteworthy to highlight the reluctance of students to actively engage in a variety of activities (completion of tasks, group work, online discussions) (SAI *et al.*, 2013), the inability or lack of

willingness of students to turn on their webcams or their habit of being connected but not actually present and attentive (MOESSENLECHNER *et al.*, 2021), a behavior widely observed during remote teaching in the Covid-19 pandemic. Similarly, blocks may occur when students feel an unequal workload among participants, a desire or need for more social collaboration, a lack of continuity in forum participation, or a demotivation due to lack of response from peers to tasks (PETERS; ROMERO, 2019). In some cases, in addition to the low quantity of exchanges, there is a lack of connection. For example, a study in Quebec found that only 13% of the 539 online students in post-secondary and university-level courses were active users of the social network environment, while 60.4% were non-users (never logged into the environment); and about 26.6% were curious users (POELLHUBER *et al.*, 2015).

Some research also highlights the potential abuses of using discussion forums and group chat. In fact, in addition to the risk of students focusing solely on reading their peers' comments (ADHAM *et al.*, 2018), lack of knowledge about the services offered by HEIs or the unavailability of tutors outside of conventional tutoring sessions may lead to reduced interaction between students and support actors (AMPONSAH; USSHER; BENJAMIN, 2021).

It is important to note that when support is provided entirely at a distance, aspects of face-to-face interaction are not replicated, which may lead to a reduction in social presence. For example, irregular or occasional interactions do not help build social capital (DOUGLAS *et al.*, 2022), meaning they do not mobilize a set of resources from a network of relationships.

Negative concepts were reported in the study by Peters and Romero (2019) when students experienced an unequal workload among participants, a desire or need for more social collaboration, a lack of continuity in forum participation, as well as demotivation due to lack of response from peers to tasks and critical and reflective engagement in forum contributions.

However, barriers can also emanate from poor quality pedagogical action. To this end, Muuro *et al.* (2014) point out that despite the potential

benefits of collaborative learning, the lack of participation from group members and especially the lack of feedback from teachers are major barriers to effective online collaboration. In this Kenyan study, teachers had not included collaborative learning activities in their online courses and, as a result, 41% of participants were not engaged in collaborative learning. In the case of MOOCs, the lack of educator presence is also a common complaint from students, as is the lack of personalized feedback (ZHU; BONK; SARI, 2018). It is worth noting that even though it is a widely used tutoring strategy, especially in MOOCs, the discussion forum often creates confusion and discomfort for the student between the need for academic support and the need for social relationships, as Baxter and Haycock (2014) describe in their study. The authors show that a very large forum (2,800 students, in the case of this study) generates isolation and can be seen as a challenge for learning.

2.2. Teachers

Teachers can be oriented towards nurturing learning continuity through contexts and practices, encouraging peer collaboration activities, digital learning strategies and engagement in professional and academic settings. Indeed, such a pedagogical emphasis on lifelong learning can support and empower students' learning ecologies (PETERS; ROMERO, 2019).

Thus, in the research by Romeo *et al.* (2017), undergraduate students enrolled in four sections of first- and second-year Spanish courses appreciated the teachers' efforts. On the other hand, they lamented the challenges posed by technical difficulties and expressed concern about using technology to their own advantage. While students in both sections of the courses showed consistent progress of at least one full major level for first-year students and two sublevels or one full level for second-year students in terms of oral and written skills, there were clear and considerable differences depending on each instructor's use of technology and their students' use of technology. Access to authentic resources on the internet and online systems such as a campus-wide LMS (Learning Management System) can contribute to teaching, and by using technology, teachers can manage and enhance instruction in a way that can bring efficiency to

the process. It is essential, therefore, that continuous professional development opportunities are provided so that teachers can explore new tools and learn to use them skillfully in their practice (ROMEO *et al.*, 2017).

Tirnovali and Kilic's (2013) research in Turkey, regarding social activities (which enable students to meet face-to-face and promote awareness of being a university student) and support (such as questions about technological resources, psychological counseling, financial support, etc.), concludes that the time arrangement is designed in such a way that the university students participating in the study can consult their teachers in the periods set aside for teaching activities, solving their doubts. In this way, awareness of the notion of belonging to a group can be cultivated through interaction with teachers and peers, reflecting the teachers' care and concern for their students. However, only a third of the students point out that the measures described are actually put into practice, resulting in their academic success.

3. Seeking to promote learning

Feelings of isolation experienced by students can sometimes lead them to abandon online courses. Therefore, the development of digital competencies - the ability to effectively use, understand and apply digital technologies in a critical, creative and ethical way - as well as the adoption of hybridity - an approach that combines elements of face-to-face teaching with online teaching, taking advantage of the best of each modality to promote student learning. In this approach, students learn at least partly in an online environment, with some control over the time, place, pace and space of learning, and at least some of the content and instruction delivered online (CHRISTENSEN *et al.*, 2009). This study points to the development of digital skills and hybrid teaching as strategies that can help reduce this isolation, as discussed below.

3.1. Developing digital skills

According to Dixon-Saxon and Buckley (2020), several factors can help students not to drop out of their courses. These include the introduction

of a broad access admissions policy; the development of students' and teachers' digital competence; the creation of learning communities; and, finally, the presence and engagement of teaching staff (through timely, relevant and targeted feedback/comments; and direct monitoring of students etc). It is worth pointing out that, in fact, all the factors mentioned here imply, in one way or another, the development of digital competences. The best strategy for developing such competences is to plan and offer well-structured teacher training, so that the teacher is able to promote the development of students' learning competences.

Mbukusa's (2015) research in Namibia is a good example of the importance of teacher training that is multiplied with students. With 75 undergraduate students on a learning platform and phone calls to supervise project work, the focus groups and in-depth study revealed that the supervisors gave no meaningful feedback to the students. In addition to no guidance on proposal writing, supervisors' comments were delayed and their corrections were not meaningful. The author emphasizes that guidelines need to be clear, supervisors' organizational skills to facilitate meaningful learning also need to be reviewed, and instructions need to clearly outline the task and/or explain the supervisor's expectations.

In this sense, according to the perception of teachers participating in the Usher *et al.* survey (2021), involving 195 teachers affiliated with 108 different academic institutions in 35 countries, the more interested they were in student data, the more teachers were willing to adopt suggested measures to improve their courses. In addition, teachers showed a greater propensity to make decisions based on collaborative learning and social and emotional support, compared to face-to-face training. However, this study warns that the appropriation of digital skills by teachers did not take place with students, limiting their ability to receive personal support and advice, leading them to feel socially isolated and ignored, contributing to school dropout. These challenges can be even more difficult to manage during periods of remote teaching, when extreme measures such as quarantine or lockdown are taken, increasing students' feelings of loneliness. This study by Usher *et al.* (2021) reveals the importance of planning teachers' digital skills development that involves student guidance strategies.

3.2. The contribution of the hybrid model

Baudrit (2018) provides an interesting overview of the tools, issues and paths of tutoring in online higher education. The author reports in his article on the results of Garner and Dilloway's study (2001), in which students with disabilities who had never met tutors in person felt isolated. The research concludes that a hybrid device that allows a physical meeting between the interested parties can help reduce feelings of isolation. In addition, to avoid feelings of abandonment, tutors should be closer to students through encouragement and positive feedback (BAUDRIT, 2018).

In this sense, in the Saudi university context, Aljohani (2021) suggested some strategies to combat isolation. These include, on the one hand, in a synchronous or asynchronous learning context, virtual meetings and social interactions, allowing students to stay in touch with their friends and colleagues. On the other hand, the author proposes that students learn, independently or through institutional initiatives, some positive practices to support their mental health and reduce their anxiety, developing a sense of control to mitigate the risk of disconnection. Furthermore, in the specific case of hybrid training, the virtual classroom, while allowing students to share knowledge and experiences in real time without being isolated from real-life situations, reduces their anxiety and sense of isolation, which are very common in a virtual learning environment (O'FLAHERTY; LAWS, 2014).

It is therefore important to emphasize that both the course community and the student's personal community are crucial for their engagement in online or hybrid learning (Borup *et al.*, 2020). Certain support elements are aligned with specific types of support actors: elements supporting cognitive engagement (teaching and collaboration), elements supporting behavioral engagement (problem-solving and guidance, organization and administration, progress monitoring), and elements supporting affective engagement (communication and relationships), in addition to the richness provided by peer activities (Papi, 2013).

It is worth noting that the adoption of certain digital tools can help combat isolation. An example is the WeChat teaching platform in interactive

translation teaching. With 60 students from the Department of Foreign Languages at Shaoyang University in China, in a hybrid learning course, Shi and Luo (2016) pointed out that translation materials and texts can be shared immediately and easily. Students can collaborate simultaneously on translation, and the student's WeChat account can be linked to the educational administration system to obtain more personalized interactive resources. The authors emphasize that the WeChat teaching platform is useful for increasing students' interest and willingness to interact with teachers on the platform, through a friendly learning environment with immediate feedback.

Thus, media attributes remain an important factor in distance education. In the specific case of hybrid education, additional access to instructional videos on the platform (such as Moodle) can have a significant effect on both learning performance and satisfaction (Nagy, 2018), including in the adoption of flipped learning.

4. Interacting to continue learning

The feeling of isolation can also be reinforced by the perceived or actual quality of student-student and student-teacher interactions. Therefore, promoting interaction often has the potential to enhance the teaching and learning process and reduce the sense of isolation, through the adoption of certain strategies.

4.1. Some strategies to promote interaction

The qualitative study by Mays (2016) highlights connecting with peers through online interactions among 19 non-resident participating students (freshmen, sophomore, junior, and senior students from various courses) in a range of academic disciplines offered in hybrid and online courses at an American institution. Students engaged with their peers by exchanging emails or through messages in the virtual learning environment (forums, research groups) in order to address questions, develop their learning, and complete activities proposed in the courses. Participants reported mixed reactions to online group work experiences.

The online group experience was described as positive if the participant knew other group members from previous courses, although for some participants, group projects resulted in dividing the project into parts to be done individually without any collaboration.

Similarly to Mays's research (2016), Rausch and Crawford (2012) observe that previously established relationships among participants (whether between students or between students and teachers) tend to foster interactions and learning in courses. Based on research conducted in an American doctoral program in hybrid leadership education, these researchers believe that group formation and a sense of belonging are most effectively introduced with at least one initial face-to-face session that provides the foundation for future measures of success and group norms. The social interaction of the face-to-face session, combined with the virtual classroom, appears to enhance the learning process by balancing aspects related to physical presence with asynchronous virtuality for analysis, reflection, and synthesis. The desire for belonging is the reason why many people feel very uncomfortable with strictly online learning, as they do not feel part of a group in relation to a specific course, program, or even university, during the learning experience.

Both interaction and teacher feedback can also play a fundamental role in the teaching-learning process, as seen in Vaughan and Cloutier's research (2017) on the assessment of a hybrid course in Canada, where first-year undergraduate students from the partnership program and four graduate research assistants were quite satisfied with the teachers' communication via email, discussion of grades and assessments, interaction with the professor and activities outside of class, discussion of ideas and readings, career advice, and interaction around research projects outside of class hours.

Student engagement and participation can also prove to be powerful resources in the pursuit of success in distance courses, as shown by participants in O'Flaherty and Laws' research (2014) in a hybrid nursing course. They reported that their experience in the virtual classroom met their initial expectations: this model allowed them to share knowledge and meaningful experiences in real-time without becoming

isolated from real-world situations. Additionally, participation in the virtual classroom increased their motivation, reduced their anxiety about studying as an external student, and reduced their sense of isolation studying in an electronic environment. Most of them found it helpful to listen to a recording of a virtual classroom session, although some disadvantages were pointed out, such as the difficulty of communicating with others without nonverbal cues and the time needed for students to feel comfortable. In other words, by attending more often, they felt they could participate better, suggesting a careful balance between the time allocated to virtual and face-to-face interaction, so that students achieve satisfactory outcomes.

It is also worth emphasizing that, concerning virtual interactions, the integration of social media technologies in learning can add value and deserves to be encouraged, whether the course is fully online or hybrid, as indicated by findings from the American research of Thoms and Eryilmaz (2015), addressing peer support among university students on the X platform (formerly Twitter) in an online course, highlighting the importance of social presence in learning.

4.2. The learning community

The creation of a learning community plays an important role in developing a sense of belonging, and while it may sometimes be initiated by students, it typically arises from planned action by the teacher. Thus, based on the three pillars of the community of inquiry (teaching presence, cognitive presence, and social presence), essential for an educational transaction, teacher presence is prominent in the design of distance education courses due to its influence on cognitive presence and student presence. Indeed, there is a significant and strong positive correlation between teacher presence and cognitive presence in asynchronous distance education (Van der Merwe, 2014).

In this sense, in programs that require fewer courses and, therefore, less interaction and fewer exchanges, such as online doctorates, learning communities, divided into four sub-communities (class, virtual room, friendship groups, and study groups), can be decisive in enhancing

collective identity, cohesion, socialization, and student performance (Berry, 2017).

4.3. Support Strategies in MOOCs

When e-learning is free and open to a broader audience, support, although still essential, becomes more complex. One initial challenge lies in keeping all students engaged and participating (Najafi *et al.*, 2015).

Drawing from the experience of hybrid teaching based on the MOOC, Zhao and Song (2020) suggest that the b-MOOC promoted learning autonomy, improved learning strategy, and increased interaction and time spent, although no obvious effect of improving academic performance of undergraduate students in the Business English course was observed. The term "b-MOOC" refers to Blended Massive Open Online Course, a type of online course that combines elements of face-to-face teaching with online learning resources. In a b-MOOC, students can participate in face-to-face sessions, interacting with instructors and peers, as well as access online course materials such as videos, readings, and activities through a virtual learning platform. The authors highlight that various forms of online and offline interaction, including discussions in forums and discussion groups, facilitated student engagement and active learning.

Engagement and mutual support appear to be easier when the MOOC is part of a hybrid training experience, as highlighted by the case studied by Onah, Pang, and Sinclair (2022), where many first-year students of a cybersecurity course in the UK joined students who had already taken the course, including the MOOC, in order to occasionally meet them in class to discuss exercises and assignments.

4.4. Covid-19 and the exacerbation of challenges

The occurrence of the Covid-19 pandemic and the containment phases it induced have motivated many researchers to explore new support strategies. A new concept, emergency distance learning, emerged as a device aiming to provide temporary education quickly and reliably, rather than recreating a robust educational ecosystem. When implementing

such a system, teachers focus on coaching activities that promote student-student and student-teacher interactions (Peimani; Kamalipour, 2021).

Collaborating and sharing anecdotes and inquiries, prioritizing the building of communities, is highlighted in the study by Mattingly and Marrs (2021) as a factor in combating isolation during the pandemic in an undergraduate course on ballet techniques, ballet history, and dance studies. Through the adoption of collaborative teaching, similar to how dancers conduct a ballet class, their methods emphasize process and indeterminacy rather than outcomes and expectations. Collaborative discussion among students and between students and the teacher counteracts pedagogical approaches based on competition, individualism, and paternalism. In various interviews, students noted that critical thinking, writing, and communication are beneficial but not easy or comfortable.

Finally, although the majority of students participating in the Belgian study by Six (2020) initially feel curious and motivated to learn how to manage various technological resources, they experience moments of fear and insecurity about the challenges they face. The pandemic, therefore, while creating learning opportunities by emphasizing the use of digital resources, has challenged teachers and students alike, on one hand exacerbating inequality and on the other hand prioritizing the search for new ways to interact.

5. Conclusion

The study highlights the potential of hybridization to reduce students' sense of isolation, emphasizing that this modality can promote peer-to-peer interaction as well as interaction with the teacher. However, it underscores the need for effective planning on the part of teachers and educational institutions, so that the benefits of hybridization, such as research, reflective response, autonomy, and personalization provided by digital resources, can be maximized, along with the interaction, debate, and exchanges facilitated by in-person moments. Thus, the study argues that the best of both worlds can work together to promote a comprehensive, diversified, and inclusive teaching-learning process.

Additionally, the study emphasizes the importance of developing digital skills for both teachers and students. It argues that the development of these skills, especially through teacher training, enables them to guide students in the conscious use of digital resources, in the construction of critical knowledge, and in self-regulated learning. By developing these competencies, both teachers and students can maximize the use of digital resources in the teaching-learning process, reducing the sense of isolation and enhancing learning.

Finally, the study concludes by encouraging future research to explore a variety of possible combinations between different types of interaction, teaching modalities, and ways of learning and teaching, suggesting that there is still much to be investigated in this field.

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