"Barriers in online education for displaced universities: Insights from faculty and students"

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NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
40	5	1

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BARRIERS IN ONLINE EDUCATION FOR DISPLACED UNIVERSITIES: INSIGHTS FROM FACULTY AND STUDENTS

Abstract

The relevance of this study lies in the growing shift to online education for displaced universities due to war-related disruptions. The aim is to identify barriers faculty and students face in such institutions and propose strategies for creating a barrier-free educational environment. The study employs a survey-based method, analyzing responses from 224 students and 71 faculty members of a displaced Ukrainian university.

Results highlight significant economic barriers, with 79% of students reporting financial difficulties affecting access to stable Internet, modern devices, and essential resources. Virtual isolation was noted by 79% of students as a challenge in maintaining social connections, while 78% cited reduced motivation characterized by the dominance of avoidance motives. Faculty reported psychological stress (85.6%), including anxiety (75%), tremors (54%), and sleep disturbances (45%). Organizational barriers, such as adapting practical courses to online formats and increased workloads due to asynchronous learning, were also prominent.

These findings underscore the need for targeted strategies to address the barriers and promote inclusivity and effectiveness in online education. A comprehensive approach integrating institutional, pedagogical, and policy-level interventions is critical for overcoming these challenges.

Keywords	motivation, isolation, digital divide, psychological stress, inclusivity
JEL Classification	I21, I23, J24

INTRODUCTION

In today's world, where technological advancements and globalization continue to shape education, creating a barrier-free educational environment has become a pressing issue. Remote teaching and learning technologies are increasingly utilized in higher education, requiring accessible and inclusive approaches to ensure that all students, regardless of their circumstances, can benefit from these innovations. A barrier-free educational environment prioritizes equal access to resources and opportunities for students with diverse physical, social, and psychological characteristics.

The full-scale war in Ukraine, which began in 2022, has significantly impacted the educational landscape, intensifying existing barriers and creating new ones. Students and educators now face diverse challenges based on their circumstances: some live in active conflict zones, while others are displaced, are abroad, or in areas with damaged infrastructure. These conditions have widened the range of vulnerable groups and placed additional strain on the educational system. The

financial burden on students and families has grown, with education competing with basic survival needs, while disruptions to social connections and community cohesion have weakened collaborative learning environments.

Additionally, students' and educators' mental health has been profoundly affected by experiences of fear, loss, and uncertainty, creating significant obstacles to effective learning and teaching. Infrastructure damage and limited access to electricity and the Internet further hinder the transition to online education, leaving many students without the necessary tools to participate in quality learning.

Adapting to these unprecedented challenges requires technological solutions, effective management, and strategic planning. A comprehensive understanding of the theoretical principles of a barrier-free educational environment is essential to developing adaptive teaching methods and inclusive educational content. This highlights the urgent need to analyze these theoretical foundations and to provide practical recommendations for implementing inclusive practices at the managerial level.

Therefore, addressing the issue of creating a barrier-free educational environment in higher education under the conditions of distance learning is critical for ensuring equal access to education and supporting the diverse needs of students in a rapidly changing world.

1. LITERATURE REVIEW

A comprehensive analysis of the literature on the implementation of online learning and the barriers it encounters (Alenezi, 2018; Alkharang & Ghinea, 2013; Khoiruman, 2021; Muhammad et al., 2016; Ciroma, 2014; Quadri et al., 2017) highlights significant differences between its adoption in developed and developing countries. Today, many universities worldwide use remote teaching and learning technologies, and this process is gradually improving (Aljaraideh & Al Bataineh, 2019; Picciano & Seaman, 2009). In developed nations, well-structured operational models have become benchmarks, offering detailed blueprints of organizational functioning, including resources, systems, and technologies that support efficient goal achievement (Gusmao & Fasone, 2020; Intan, 2021; Patra et al., 2021). Universities have widely adopted these models to ensure continuity in educational activities. However, their success often depends on addressing barriers influenced by cultural, social, and geopolitical factors, which vary significantly across regions (Børte et al., 2020; Janke et al., 2023; Afzal et al., 2023; Hamilton & Petty, 2023). Consequently, these models require adaptation to diverse contexts.

In contrast, developing countries and regions experiencing crises like Ukraine face additional barriers that complicate online learning implemen-

tation. The realities of war have disrupted this potential, leading to significant challenges. The war has disrupted social connections and led to a loss of community cohesion. Students can no longer interact with peers, share ideas, and exchange experiences, profoundly affecting the collaborative learning environment (Kenworthy & Opatska, 2023). Additionally, the mental health of students has been severely impacted. Experiences of loss, fear, and uncertainty create obstacles to effective learning, with many individuals facing anxiety, depression, and post-traumatic stress disorder (Barvinok & Pudło, 2023). These challenges exacerbate existing barriers, such as inadequate Internet access, outdated networks, limited resources, underdeveloped e-learning skills, and skepticism about the effectiveness of online education (Cheok et al., 2017; Hechter & Vermette, 2013; Van Vliet, 2002). Destruction of infrastructure and limited access to electricity and the Internet further hinder the transition to online learning. Many students lack the means to use computers or connect to the network, restricting their ability to receive quality education. Students in occupied areas face particular difficulties accessing education, as infrastructure has suffered significant damage, forcing educational institutions to adopt alternative teaching methods, such as online learning via networks (Suchikova & Tsybuliak, 2023). The financial burden on students and their families has also increased due to the conflict. Education now

competes with immediate survival needs, and families that were previously afforded higher education are now forced to prioritize necessities such as food and shelter (Suchikova, 2023).

Organizational and technical issues and cultural beliefs further exacerbate these difficulties (Fish & Gill, 2009; Hartmann et al., 2017). Researchers have consistently differentiated barriers faced by students and educators, with technological limitations and insufficient competence highlighted as key obstacles for educators (Sims, 2002; Young et al., 2001). For students, barriers such as unfamiliarity with online environments, insufficient time, and cognitive overload often lead to a preference for traditional education (Becker et al., 2013; Glazkova et al., 2024; Willis et al., 2013). Research by Muilenburg and Berge (2005) expands this understanding by identifying broader issues, including administrative inefficiencies, inadequate social interaction, and limited resources. Technical challenges, delayed instructor feedback, and high dependency on technology contribute to student frustration (Navarro, 2000; Simonson et al., 2009).

These findings underscore the widespread nature of barriers hindering e-learning adoption (Alenezi, 2018; Aljaraideh & Al Bataineh, 2019; Ciroma, 2014; Cheok et al., 2017; Hartmann et al., 2017; Sims, 2002). From an institutional perspective, challenges include high costs of software, resource limitations for training staff and students, and inadequate infrastructure (Azab & Aboalshamat, 2021). Dabaj (2009) categorized barriers into overt challenges, such as high communication costs and limited website access, and covert barriers, like technophobia and resistance to change. Similarly, Mashhour and Saleh (2010) emphasized poor infrastructure and insufficient governmental and institutional support.

Al-Naabi and Al-Abri (2021) identified four categories of barriers: teacher-related, institutional, curriculum-related, and student-related. They investigated the relationship between these barriers and variables, such as educators' gender, academic qualifications, teaching experience, and prior experience with e-learning. The study employed a four-dimensional classification of e-learning barriers (Assareh & Hosseini, 2011): learners, educators, curriculum, and institutions. Barriers relat-

ed to learners and educators included insufficient knowledge and skills in e-learning, attitudes and beliefs about e-learning, lack of confidence, and absence of prior experience. Curriculum-related barriers hindering e-learning included mismatches between curriculum and assessments, a lack of e-learning components in the curriculum, and tasks too complex to perform through e-learning systems. Institutional barriers encompassed underdeveloped e-learning infrastructure, policies, and professional development in e-learning.

Hillage and Aston (2001) divided barriers to online learning into three groups: attitudinal barriers: negative attitudes toward learning, lack of confidence, or lack of motivation; physical and material barriers: costs of learning (direct – fees; indirect – transport, books, equipment, childcare), lack of time, lack of information, and geographical constraints; structural barriers: lack of appropriate educational or training opportunities and limitations imposed by the benefits system.

Rabin et al. (2020) categorized barriers into three types and examined the impact of factors such as age, gender, self-efficacy, motivation, self-regulation skills, and intention to complete a course as predictors of these barriers. The "lack of interest/relevance" barrier was predicted by self-regulation indices such as self-assessment, learning strategies, and help-seeking. The barrier of "lack of time/poor planning" was associated with goal-setting, time management, learning strategies, and respondent age. The "lack of knowledge/technical problems" barrier was predicted by self-efficacy, external motivation, time-management self-regulation indices, and behavioral intention to complete the course.

The COVID-19 pandemic brought these barriers into sharper focus, highlighting disparities in access to education and prompting strategies to address them (Al-Naabi & Al-Abri, 2021; Glazkova et al., 2022).

The implementation of distance learning is a complex task that can encounter various challenges and obstacles, often referred to as barriers to the implementation of online education. A detailed analysis of the literature on barriers to online learning reveals that many researchers classify these barriers into four dimensions: student-relat-

ed barriers, teacher-related barriers, infrastructure and technology-related barriers, and institutional management-related barriers. Unfortunately, the literature analysis shows that current research is limited to describing general methods specific educational institutions use to reduce these barriers. This highlights the urgent need for a systematic managerial approach to address the problem.

In this context, the study explores the barriers educators and students face in higher education institutions that have experienced displacement. The purpose is to understand the factors influencing the ability of educational stakeholders to adapt to new organizational conditions. By examining the experience of Berdyansk State Pedagogical University, this study seeks to identify effective strategies and tactics in educational management that can contribute to creating a barrier-free educational environment within institutions.

The literature review reflects that the barriers to online learning are diverse and multifaceted, requiring targeted approaches to address technical, social, and economic challenges. In contexts such as displaced universities, these barriers demand careful analysis and the development of tailored strategies to create a barrier-free educational environment. Comprehensive, multi-level recommendations are particularly critical in regions facing crises, where education systems must adapt to unique constraints while striving to ensure accessibility, equity, and resilience.

Thus, the study aims to identify the primary barriers faced by educators and students in displaced universities and develop multi-level recommendations for creating a barrier-free educational environment that ensures accessibility, equity, and resilience in crisis-affected regions.

2. METHOD

The methodology of this study was designed to identify the barriers faced by the academic community of displaced universities, which, having completely lost their material and technical infrastructure and campuses, continue to function in a modified format by adapting operational online learning systems. The entire university community is globally dispersed, with teaching and learning occurring remotely. Specific working conditions and security risks such as occupation, war, constant relocations, and mobilization necessitate continuous monitoring within these institutions. Faculties maintain communication with all participants in the educational process through messenger groups, where regular surveys are conducted to assess needs, challenges, safety conditions, mental health, and more. This established monitoring system provided a solid foundation for gathering comprehensive data for the study.

The inclusion criterion for this study was the submission of fully completed questionnaires. A total of 295 responses were collected: 224 from students and 71 from faculty members of Berdyansk State Pedagogical University. The sample included participants from diverse demographic backgrounds. Among the students, respondents represented different academic years (first-year to final-year undergraduates and master's students), fields of study (humanities, social sciences, and natural sciences), and family statuses. Faculty participants represented various departments and included instructors with different experience levels in both traditional and online teaching.

Respondents were selected proportionally to their representation within the university community to ensure a representative sample. This approach allowed the study to capture a broad spectrum of experiences and perspectives, providing a comprehensive understanding of the barriers faced by both students and faculty.

The survey was conducted online in April 2024, utilizing the pre-existing communication infrastructure of messenger groups used by the university. Participants received a link to the questionnaire on Google Forms, along with detailed instructions and assurances of confidentiality. The survey was structured into two distinct parts, tailored separately for faculty and students.

The faculty questionnaire included nine close-ended and five open-ended questions (Table 1) addressing barriers in teaching, psychological well-being, and interaction with students in the online format, while the student questionnaire consisted

Table 1. Faculty and student questionnaires on educational barriers

Questionnaire for Faculty: "Educational Barriers for Faculty Members"	Questionnaire for Students: "Educational Barriers for Students in Higher Education"
Closed-ended questions	**Close-ended questions**
1. Do you face challenges due to insufficient access to digital resources or technology?	1. Do financial difficulties affect your ability to fully engage in education?
2. Do you experience psychological exhaustion due to the demands of the educational process?	2. Do you feel socially isolated in virtual learning environments?
3. Do you feel anxious while performing educational tasks?	3. Have you lost interest or enthusiasm for learning?
4. Do you experience physical tension or tremors while performing professional duties?	4. Do you feel that education has become less meaningful to you?
5. Do you suffer from sleep disturbances due to your workload?	5. Do you think there is too much focus on grades and test scores in your education?
6. Do you face difficulties in communicating with colleagues or students in a remote learning environment?	6. Are you more motivated by fear of failure than by positive goals?
7. Do you have concerns about the security of the digital platforms you use?	7. Are you concerned that your education will not adequately prepare you for your future career?
8. Do practical limitations (e.g., technical or organizational) hinder your ability to work effectively?	8. Do you find it challenging to adapt to changes in the educational environment?
9. Do you feel a loss of community due to the lack of regular interaction with colleagues or students?	
Open-ended questions	**Open-ended questions**
1. What barriers do you face in maintaining the same level of interaction with higher education students online as in traditional classes?	1. How have the economic challenges caused by the war affected your current studies and future educational plans?
2. How would you describe your psychological and emotional well-being during the online teaching necessitated by the war?	2. What psycho-emotional barriers resulting from the university's displacement have impacted your engagement in the educational process?
3. What barriers do you encounter in online communication?	3. What is the most significant barrier to adapting to online learning for you as a student?
4. What barriers arise in fostering and preserving a sense of community and university identity among students and staff who are physically isolated from one another?	4. How has transitioning to virtual learning complicated establishing and maintaining social relationships among students?
5. What difficulties do you experience in adapting course materials, teaching methods, and assessments to the online format?	5. How have disruptions to daily routines and the lack of a structured educational environment affected your motivation as a student?
	6. Are you concerned about how current educational challenges might influence your future career prospects?

of eight close-ended and six open-ended questions (Table 1) exploring economic, motivational, and psycho-emotional challenges during online learning.

The data collected through the questionnaire were processed using a methodical approach that distinguished between quantitative and qualitative segments to ensure accuracy and depth of analysis. The quantitative part of the questionnaire was analyzed using descriptive statistics, which allowed for a summary of the responses to questions. This approach provided a clear understanding of the key challenges faced by participants in the educational process and the effectiveness of the implemented strategies. Instead of employing mathematical statistics, descriptive analysis was chosen to present the data simply and comprehensibly. This enabled the identification of prominent trends and patterns without the complexity of inferential statistical tests.

The collected data were subjected to qualitative analysis to capture the depth and complexity of the barriers faced by faculty and students. Responses were systematically coded using thematic analysis to identify recurring patterns and themes. The analysis was conducted in three stages:

1. Initial coding: responses were categorized into preliminary themes, including technical barriers, motivational challenges, emotional well-being, economic difficulties, and engagement in online learning.

2. Theme refinement: themes were further refined to distinguish between the specific challenges reported by students and faculty, such as stress due to displacement, difficulties maintaining interaction, and economic hardships.

3. Interpretation: final themes were analyzed in relation to the study's objectives to derive key insights and actionable recommendations for addressing these barriers.

The survey aimed to systematize the barriers faced by faculty and students and gather additional insights into the challenges influencing the educational process. Respondents were encouraged to share their strategies for overcoming these barriers and strengthening the academic community.

A particular focus was placed on:

1. Identifying adaptations in teaching methodologies and learning experiences.

2. Analyzing the evolution of student engagement.

3. Examining initiatives aimed at supporting mental health and well-being.

4. Exploring approaches to evaluating student performance and ensuring academic integrity in an online environment.

The qualitative component included a detailed analysis of initiatives to foster a sense of community among university members, mechanisms for gathering and applying feedback, and strategies to prepare students for their future professional roles amidst ongoing uncertainty. This approach enabled a more comprehensive understanding of educational barriers' dynamic and multifaceted nature.

Ethical considerations were paramount in this study. All respondents were informed about the research objectives, the voluntary nature of participation, and the confidentiality of their responses. Consent was obtained electronically before participants could proceed with the survey. Participants' anonymity was strictly maintained, and the data were used solely for research. While information such as participants' locations, age, gender, course of study, and family status was collected, no personal details were disclosed in this study due to security and ethical considerations. The study was approved by the Research Ethics Committee of Berdyansk State Pedagogical University (Protocol No. 19, dated April 19, 2024).

3. RESULTS

3.1. Faculty barriers

The challenges faced by faculty members at Berdyansk State Pedagogical University encompass a wide range of difficulties, including technological, psychological, and organizational struggles. Figure 1 presents a detailed overview, illustrating the percentage of respondents impacted by each type of barrier, such as digital literacy gaps, psychological well-being issues, and organizational limitations.

Faculty responses identify the digital divide between educators and students as a predominant challenge. This divide includes insufficient internet access, disparities in digital literacy, and a lack of necessary equipment, as highlighted by 78% of respondents. These findings underscore the need for targeted support and resources to ensure effective online instruction.

Psychological and emotional well-being among educators has also been notably affected, with 85.6% reporting adverse impacts. Specific concerns include anxiety (75%), tremors (54%), and
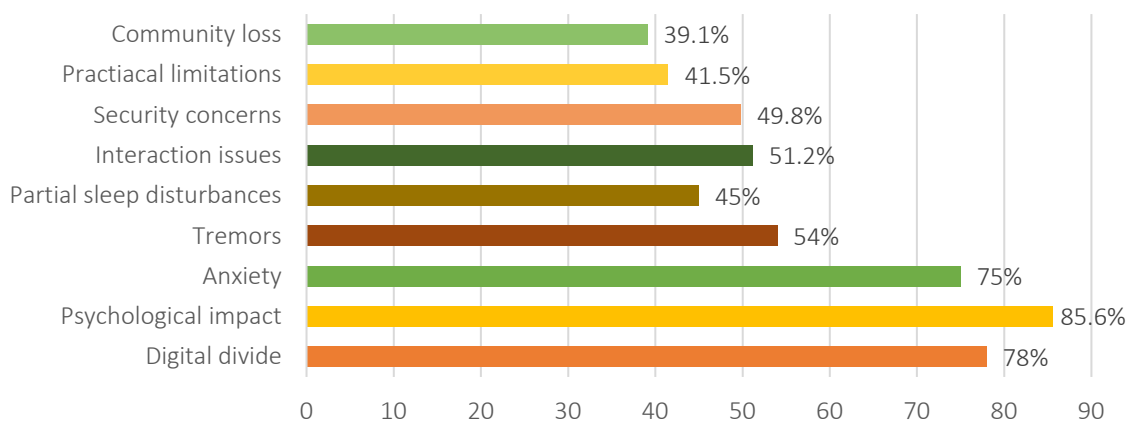

Figure 1. Faculty educational barriers

sleep disturbances (45%), reflecting the significant strain imposed by the transition to online teaching. These issues highlight a consensus on the mental health effects of remote education.

Another challenge lies in replicating the level of interaction achieved in traditional classrooms within virtual environments. A total of 51.2% of faculty acknowledged difficulties in maintaining student engagement, emphasizing the variability of experiences across respondents. Concerns regarding the security and confidentiality of online communication were reported by 49.8%, highlighting the importance of data protection in digital settings.

Additional barriers include difficulties conducting laboratory and practical components due to the absence of physical resources (41.5%) and challenges in maintaining a sense of community and preserving university identity (39.1%). These findings emphasize the broader complexities of online education's practical and social dimensions.

Figure 2 provides a schematic overview of the two major categories of faculty barriers: informational-organizational and emotional-psychological.

Respondents pointed out that limited opportunities for personalized interaction during synchronous classes hinder meeting individual student needs, mainly when asking questions or receiving detailed answers in large groups. Additionally, rigid class schedules create difficulties for instructors and students balancing in work or other responsibilities amidst the ongoing war.

Another significant challenge involves adapting practice-based disciplines, such as sports, specialized pedagogy, arts, and natural sciences, to online formats without access to necessary equipment or resources. While asynchronous learning provides flexibility, it also presents obstacles, such as delayed feedback due to communication lags between students and instructors. Students often express frustration when instructors are unavailable outside scheduled hours, while instructors report feeling fatigued or irritated by the extended demands of correspondence.

Timely and complete assignment submissions also present recurring difficulties. The lack of direct supervision leads to widespread task postponements, increasing instructors' workloads during examination periods and causing stress due to objective barriers that prevent students from meet-

Informational-Organizational Barriers

1. Limited opportunities for individual interaction
2. Lack of flexibility in scheduling
3. Challenges in adapting practice-oriented disciplines
4. Barriers introduced by asynchronous learning
5. Incomplete and untimely completion of assignments
6. Double workload for instructors
7. Communication barriers in asynchronous learning

1. Motivational issues
2. Low concentration
3. Concerns about losing control over the educational process
4. Psychological stress among instructors
5. Fatigue and burnout
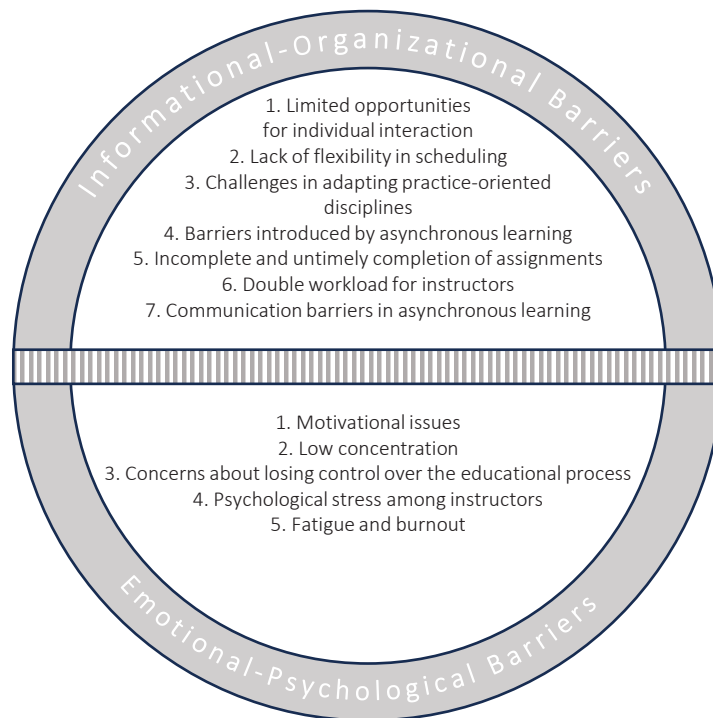
Emotional-Psychological Barriers

Figure 2. Educational barriers for faculty members

ing deadlines. Another critical issue is the "double workload" for instructors, who spend significantly more time supporting asynchronous learners by answering questions, explaining materials, and assessing work outside scheduled class hours.

Communication barriers in asynchronous learning hinder effective interaction and information exchange, limiting shared engagement among participants in the educational process.

Emotional and psychological barriers among university instructors present additional challenges, negatively affecting both the educational process and the well-being of students and faculty. Issues with discipline and declining student motivation complicate teaching efforts. Respondents observed a shift in student priorities, where achievement-oriented goals have been replaced by a minimum-effort approach, reflecting the war's profound impact on their emotional state and motivation.

Another critical issue is low concentration, resulting from limited personal contact and reduced interaction between students and instructors. Diminished attention spans during online learning exacerbate difficulties in maintaining engagement and focus. Instructors also expressed concerns about losing control over the educational process, highlighting the need for new strategies to ensure effective management and leadership in a remote learning environment.

Additionally, instructors are frequently under psychological stress, heightened by fears of shelling, anxiety for their loved ones, and concerns for their students' safety. These pressures call for adequate psychological support to enhance the emotional resilience of teaching staff.

The analysis revealed that organizational and informational barriers have significantly intensified during wartime. Scheduling conflicts, caused by the global dispersion of students and instructors across time zones and the additional employment of participants, further complicate the educational process. Although asynchronous learning maximizes participation, it increases the workload on instructors, requiring extensive grading, communication, and additional consultations. Over time, these prolonged demands have led to chronic fatigue, psychological strain, and symptoms of burnout among educators.

3.2. Student barriers

Students at Berdyansk State Pedagogical University have faced a wide range of challenges due to the shift to online learning, compounded by the realities of displacement and war. These barriers affect their ability to fully participate in the educational process and maintain academic performance. Figure 3 provides a detailed breakdown of the percentage of students impacted by various challenges.

The survey responses highlight economic challenges as a significant obstacle to quality education, with 79% of students reporting difficulties in this area. Financial constraints hinder students from securing essential resources such as stable internet access, modern devices, and funding for tuition and daily expenses. Many students reported working multiple jobs to afford these necessities, significantly reducing their academic productivity.

Social isolation is another critical issue, with 79% of respondents reporting difficulties in forming and maintaining connections in the virtual learning environment. This complicates collaborative
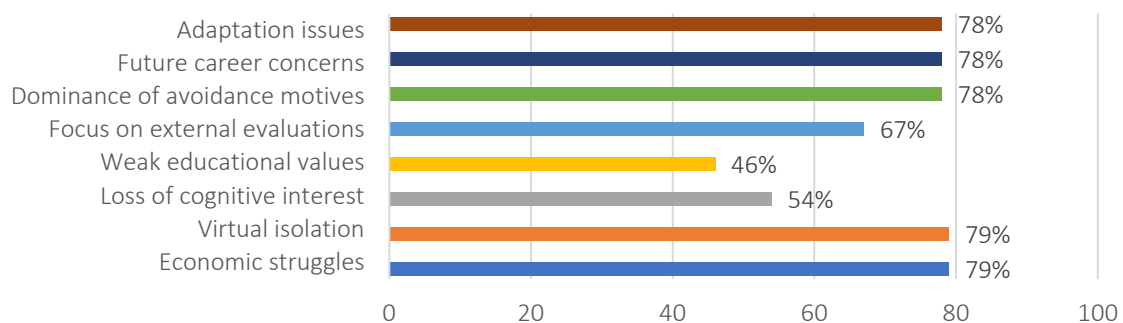

Figure 3. Educational barriers for students

learning and underscores the need for personalized strategies to support students in distance education.

Motivational challenges also emerged, with 54% of students reporting a decline in cognitive interest, 46% noting the absence of a value-based approach, and 78% identifying avoidance motives over achievement-oriented ones. Technological barriers, including unreliable internet and limited access to modern devices, were acknowledged by 79% of respondents. However, perceptions of the severity of these challenges varied, with some viewing them as manageable and others considering them substantial obstacles to effective online education.

Concerns about future career prospects were another key issue, with 78% of students expressing uncertainty about how current educational challenges might affect their long-term development. While some respondents viewed these difficulties as temporary and resolvable, others saw them as serious impediments to their career and educational aspirations.

Adapting to online learning presented additional difficulties, as 78% of respondents reported struggles with time management and organizing educational processes in unstructured environments. These findings emphasize the need for tools and tailored approaches to help students maintain productivity and engagement, even in home-based settings.

Figure 4 comprehensively summarizes all major student barriers, categorizing them into motivational, financial, and emotional-psychological groups.

This analysis illustrates the complexity of barriers educators and students face during online learning. The findings indicate that educators encounter significant challenges in the online learning environment, including informational-organizational barriers such as inadequate technical infrastructure, limited digital skills, and difficulties adapting materials for virtual formats. Additionally, emotional and psychological challenges, such as stress, isolation, and reduced motivation, complicate teaching processes.

Students, meanwhile, face financial constraints, motivational challenges, and emotional stressors. Limited access to necessary resources, including devices and internet connectivity, impedes their
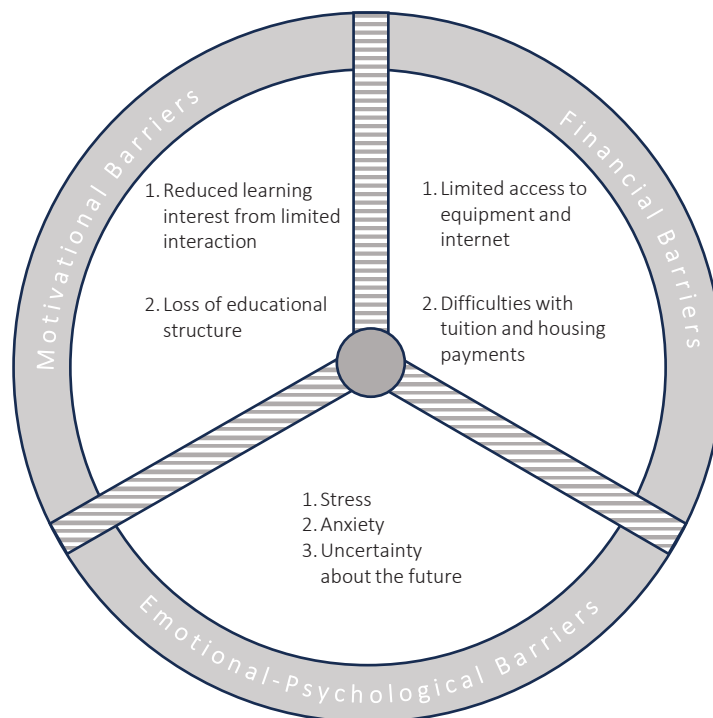

Figure 4. Educational barriers for students in higher education

ability to fully engage in online education. The decline in motivation is exacerbated by reduced interaction with peers and instructors and the loss of structured learning processes. Emotional barriers, including stress, anxiety, and uncertainty, further impact students' ability to succeed, emphasizing the need for comprehensive support to enhance resilience and academic outcomes.

These findings suggest that effectively reducing these barriers requires a comprehensive approach to educational institution management, including targeted interventions for faculty and students, improved access to resources, and strategies to foster emotional resilience and academic success.

4. DISCUSSION

It is evident that the formulation of strategies for preventing barriers in the educational process is crucial due to their adverse functions and destructive impact on activities. Addressing barriers proactively is significantly more manageable and less resource-intensive than overcoming them later. Prevention requires fewer resources in terms of effort, time, and finances while avoiding the destructive consequences of barriers. However, when prevention fails, developing strategies for overcoming barriers becomes essential, as this is critical for mitigating their adverse effects. The effectiveness of each strategy is ensured by specific tactics, which is defined as a set of methods and techniques.

Confirmation of this idea is also found in the work of Basir et al. (2021), where the author states that

to fully utilize the potential of e-learning, educational managers must understand, manage, and mitigate the barriers affecting the e-learning system. According to the "Technology, Personality, Pedagogy, and Enabling Conditions" concept, the barriers to the implementation of e-learning are divided into four categories: technology, personal characteristics, pedagogical methods, and enabling conditions (Basir et al., 2021). A study by Gunawardena and Dhanapala (2023) supports the idea of personalized and inclusive learning as a means (tactics) to overcome social and geographical barriers, thereby minimizing inequality in access to education. Therefore, these researches support the view on the necessity of justifying strategies for preventing and overcoming barriers.

4.1. Tactics for preventing and overcoming barriers

Utilizing research findings to identify tactics for overcoming and preventing barriers in online learning is a crucial step toward managing educational processes amidst contemporary challenges. Studies provided by various authors form a robust foundation for developing strategies and tactics tailored to address barriers across individual, group, and institutional levels. This section integrates findings from prior research to propose specific solutions.

Figure 5 illustrates the classification of tactics for preventing and overcoming barriers, including forecasting, facilitation, support, accompaniment, stimulation, and collaboration. Each tactic aligns with specific strategies, either preventing or
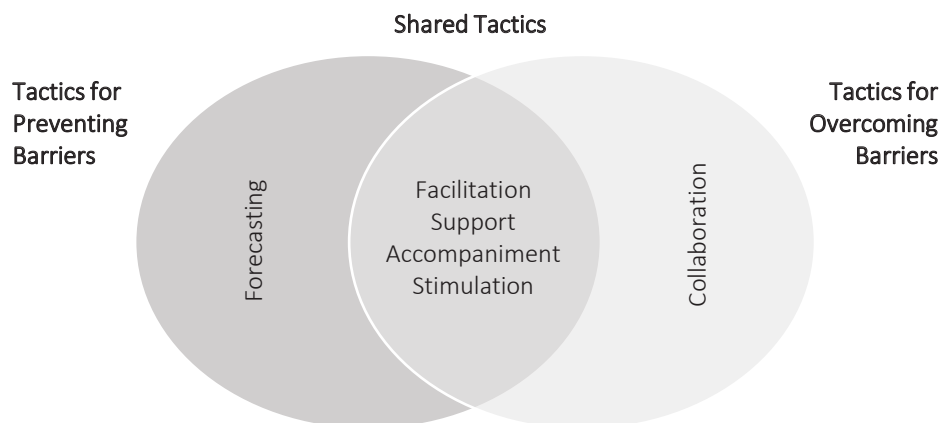

Figure 5. Tactics for preventing and overcoming barriers

overcoming, depending on the circumstances of the educational process and the type of barriers encountered.

Forecasting is essential for predicting potential barriers to online learning. This tactic's effectiveness lies in its depth and multifaceted approach, enabling educational stakeholders to address challenges proactively. For instance, the Karalis model (2020) emphasizes analyzing the needs of all participants in the educational process to prevent barriers. Activities such as workload analysis and schedule optimization help anticipate organizational and digital barriers like scheduling conflicts and insufficient technical resources. These measures ensure smoother adaptation to changing educational demands, particularly in asynchronous environments.

Facilitation tactics help overcome communication barriers by strengthening interaction and encouraging active participation through open dialogue and inclusivity. Creating environments where learners feel empowered to ask questions, share ideas, and take ownership of their educational journey fosters a dynamic and supportive atmosphere. Techniques like interactive discussions and peer-led workshops encourage active involvement and build a collaborative learning culture.

Support tactics address economic, psychological, and motivational barriers by providing essential resources. Marcial et al. (2015) stress the importance of equipping educators with professional development programs, technical consultations, and access to necessary equipment. Additional measures include financial aid, peer support groups, and counseling services, which collectively create equitable opportunities for participation. These efforts ensure that both students and educators are equipped to succeed and maintain resilience.

Accompaniment tactics provide consistent, personalized guidance and support throughout the educational journey, helping to overcome psychological and organizational barriers. This approach ensures that students and educators receive ongoing assistance tailored to their evolving needs. Examples include regular check-ins with academic advisors, personalized feedback on assignments, and dedicated mentors who guide learn-

ers through challenging phases. Accompaniment fosters a sense of security and trust, helping participants navigate barriers with confidence. Additionally, creating pathways for longitudinal support ensures that individuals remain engaged and resilient over time, ultimately contributing to sustained success in online learning environments.

Stimulation tactics address motivational barriers by enhancing engagement through the connection of theoretical knowledge to practical applications. Manesis (2020) underscores the use of educational games and gamified activities to mitigate motivational barriers. These approaches reignite intrinsic motivation and sustain engagement by aligning learning activities with student interests and reducing stress. Collaborative games further reduce social isolation and foster a sense of community among learners.

Collaboration tactics foster social and career development by involving stakeholders at all levels. Lock et al. (2003) highlight the value of establishing mentorship programs, organizing group projects, and including parents in decision-making processes. These initiatives reduce communication barriers and social isolation while promoting an inclusive and supportive environment. Additionally, partnerships with employers and career counseling initiatives align academic achievements with real-world applications, enhancing student confidence and preparedness.

A combination of forecasting, facilitation, support, accompaniment, stimulation, and collaboration tactics provides practical solutions for overcoming barriers in online learning. By tailoring these tactics to address specific challenges, institutions can enhance the effectiveness of educational delivery while meeting the diverse needs of students and educators alike. These tactics ensure adaptability and sustainability, promoting resilience in the face of contemporary educational challenges.

4.2. Recommendations for a barrier-free educational environment

Based on the survey results of faculty and students from displaced universities, several recommendations can be proposed for strategies and tactics to create a barrier-free educational environment in

higher education institutions. These recommendations are directed at three levels:

1. Macro Level (Policymakers):

- Develop policies ensuring equitable access to technology and reliable Internet for all students and faculty.

- Support displaced universities through funding and resources for infrastructure and digital tools.

- Promote the integration of mental health support systems within educational frameworks.

2. Meso Level (Higher Education Management):

- Implement flexible scheduling systems that accommodate diverse time zones and personal circumstances.

- Provide professional development opportunities for faculty to enhance digital competencies and pedagogical adaptability.

- Foster a collaborative institutional culture emphasizing support, inclusion, and resilience.

3. Micro Level (Educational Stakeholders):

- Encourage the use of adaptive teaching methods and personalized learning strategies.

- Promote peer collaboration and interactive platforms to strengthen the sense of community among students and faculty.

- Introduce time management and organizational tools to improve students' ability to navigate unstructured environments.

By addressing barriers at these three levels, higher education institutions can create a resilient, inclusive, and effective educational environment that supports all participants, even under challenging circumstances. These strategies and tactics emphasize the importance of proactive and responsive measures, ensuring continuity and quality in education despite external disruptions.

CONCLUSION

The study aimed to identify the barriers faced by faculty and students in displaced universities and propose strategies to mitigate them. The results demonstrated significant challenges across economic, motivational, and psychological domains for students, and informational-organizational and emotional-psychological barriers for faculty. Specifically, 79% of students reported economic difficulties impacting their ability to access essential resources, while 78% faced challenges adapting to online learning. Faculty members reported heightened stress levels (85.6%) and difficulties maintaining meaningful interaction with students in an online format (51.2%).

These findings emphasize the critical need for targeted strategies at institutional, policy, and individual levels. Addressing economic barriers requires enhanced access to technology and financial support for students, while fostering community through collaborative platforms can help mitigate motivational and social challenges. Integrating mental health support into educational frameworks is essential to address the psychological strain experienced by both students and faculty. Moreover, systematic efforts to strengthen digital literacy, improve asynchronous learning structures, and ensure flexibility in scheduling can alleviate many of the organizational and technical barriers.

By implementing these strategies, displaced universities can build a more resilient and inclusive educational environment, ensuring continuity and quality in the learning process despite external disruptions. These insights provide a foundation for future research and practical interventions aimed at supporting academic communities in crisis-affected regions.

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