STRATEGIES AND PRACTICES FOR BUILDING A STIMULATING AND SUSTAINABLE LEARNING ENVIRONMENT

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Abstract: *This article explores both traditional and modern didactic approaches used in the design, delivery, and evaluation of educational content to identify the key elements that contribute to engaging and enduring learning environments. By analyzing strategies that foster critical thinking, creativity, and sustained academic achievement, the study underscores the importance of flexibility and innovation in education. Employing a qualitative research methodology, the study involved semi-structured interviews with university and pre-university teachers and students, as well as participatory observation during seminar sessions. These methods enabled an in-depth examination of how classroom, institutional, and interpersonal dynamics influence student motivation and engagement. Findings highlight the need for personalized teaching approaches that respond to individual learner needs, supported by timely feedback and carefully designed instructional*

strategies. The study offers a comprehensive framework to guide educators in developing inclusive, motivating, and effective learning environments.

Keywords: *didactic strategies; learning; educational environments.*

Introduction

The design and implementation of educational content represent a complex and vital process in the creation of engaging learning environments (Vlăsceanu, 1998). In a constantly changing world, where technology evolves rapidly and learning needs are becoming increasingly diverse, it is essential to approach the design and delivery of educational content with both care and creativity.

This paper explores various approaches and techniques used to create learning environments that inspire and motivate students. Adaptability and innovation in the design and implementation of educational content are crucial for developing stimulating learning contexts that encourage exploration, critical thinking, and creativity.

The present research employs a qualitative methodology and is structured as a case study focused on specific analyses, aiming to understand how individuals perceive their personal experience and how they reflect it within the collective. The central question guiding this article is: How can educational activities and stimulating learning be designed to produce long-lasting outcomes for students?

The primary objective is to explore innovative approaches to creating engaging learning environments, to analyze the processes involved in designing educational content, to examine the methods used to assess its impact on students' progress, and to investigate tools for the continuous improvement of learning environments.

Alongside the main objective, several secondary goals have been identified, including examining the design of teaching activities and stimulating learning to achieve sustainable results among students; defining the concept of a stimulating learning environment; and clarifying teaching strategies such as instructional design, teaching style, evaluation, and assessment methods.

The process of creating a stimulating learning environment also involves certain limitations (Neacșu, 1999). One of the most common challenges is the lack of sufficient material resources allocated to educational institutions. Another issue concerns the reluctance of some teachers to adopt new methods and technologies in the instructional process. Additionally, the mindset and attitudes of students' parents have a significant influence on the development of such environments, as students often replicate their parents' behaviors or internalize the

values conveyed to them at home. At the same time, schools are increasingly facing students who show little interest in learning and resist progress, even when encouraged by their teachers (Dance, Franck E. X., 1989).

Research methodology

Qualitative research

For this research study, a basic qualitative approach was employed. This approach is commonly used in the fields of education, health, and social care. It focuses on the interpretation of experiences within educational contexts and is defined by its interpretive character (Buhamad, 2024).

The purpose of using a qualitative approach is to gain a deep understanding of how educational activities and stimulating learning environments influence students' motivation, critical thinking, and creativity. This method allows for a detailed analysis of the processes involved in the design and implementation of educational content and its impact on student progress. It provides valuable insights for the continuous improvement of learning environments.

Theoretical framework

Sustainability learning environments and outcomes of educational processes involve integrating sustainable development principles and practices into all aspects of the educational process. This includes not only key elements of education, such as teaching, learning and assessment, but also policies, documents (e.g. curriculum) and other didactic and pedagogical components, as well as the learning environment. The aim is to develop the personality and professionalism of learners, cultivating the knowledge, skills, values and attitudes needed to address complex global issues, such as climate change, environmental degradation, social inequality and economic growth (Wang et al., 2021).

Sustainability learning environments and the outcomes of educational processes involve a holistic and interdisciplinary approach that transcends the boundaries of traditional disciplines (Murphy et al., 2020), and extends learning beyond the classroom, promoting community engagement and social responsibility (Pimpa, 2024).

Educational processes that enable the emergence of long-term outcomes provide a pedagogical framework to support students in designing innovative practices to address sustainable development issues (Figueir´o & Raufflet, 2015), contributing to the achievement of the Sustainable Development Goals (SDGs) at local, national and global levels. To achieve these goals, the adoption of innovative pedagogical approaches is essential. Experiential learning, for example,

through field trips and internships, provides students with valuable practical experience in addressing sustainability challenges (Kolb, 1984, p. 41). Problem-based learning (PBL) develops problem-solving skills in the context of real-world situations, and interdisciplinary approaches integrate knowledge from various academic fields to address the complexity of sustainability issues. In addition, technology-enhanced learning connects theoretical knowledge with practical implementation and promotes environmental awareness (Androutsos & Brinia, 2020). Online platforms, virtual reality (VR), augmented reality (AR), and data visualization tools offer new ways to engage students and enhance learning experiences (Freeman, 1984). Although online platforms offer access to diverse resources and flexibility, they can face technical issues and lack of social interaction (Bednarz et al., 2016). VR and AR offer immersive learning experiences for understanding environmental impacts but can have high development costs (Holzmann & Gregori, 2023). The case study method also plays an important role in sustainability pedagogy, helping students practice moral and rational decision-making in the context of real-world complexities (Montiel et al., 2018), and literary genres can be used to enhance emotional learning, considered an important factor in sustainable education (Pandita & Kiran, 2023). However, implementing educational processes that increase the chances of achieving sustainable education faces several challenges. The interdisciplinary nature of the field can make traditional assessment systems inadequate (Holzmann & Gregori, 2023), and assessing critical thinking and ethical reasoning is particularly difficult (Wang, Shi, Lu, Lin, & Yang, 2021). Implementing innovative pedagogies requires significant financial and human resources, access to technology, and time (Holzmann & Gregori, 2023), and teachers need training in both technical and pedagogical skills (Wang, Shi, Lu, Lin, & Yang, 2021). In addition, institutional rigidity, such as rigid school curricula and standardized testing, can hinder the integration of interdisciplinary and project-based learning, and teacher resistance to change can also be a barrier (Sun et al., 2008).

However, there are many opportunities for improvement. The integration of technology, with instruments such as digital badges, e-portfolios, and learning analytics, can improve assessment and feedback, and online platforms can facilitate global collaboration (Wang, Shi, Lu, Lin, & Yang, 2021). Collaborative networks and shared assessments between universities and organizations can lead to common assessment tools and resource sharing, and local community projects can enhance hands-on learning (Pimpa, 2024).

In this context, student motivation and engagement play a key role in facilitating effective learning and the adoption of sustainable behaviors.

According to self-determination theory, motivation and engagement are critical factors that influence students' academic success (Deci & Ryan, 2000). Motivation has been defined as a process where learners actively determine learning objectives for the purpose of monitoring, regulating, and controlling motivation, cognition, and behavior (Pintrich, 2000). Student motivation and learning strategies have been shown to be positively and significantly correlated, and research indicates that a student's motivation can significantly predict their learning strategies (Hariri et al., 2021). Furthermore, the use of engaging learning media, such as flipbooks, can increase student interest and motivation, thereby supporting optimal learning outcomes (Bunari et al., 2024). Engagement, on the other hand, involves active participation in the learning activity, with behavioral (e.g., time investment) and cognitive (e.g., strategic effort) dimensions being particularly important (Fredricks et al., 2005; Hiver et al., 2024).

In the context of learning, motivation refers to the processes that initiate, direct, and sustain goal-directed behavior (Zeidner et al., 2000). According to expectancy-value theory (Eccles & Wigfield, 2002), motivation encompasses self-efficacy (confidence in one's ability to succeed) and perceived value, which includes interest (pleasure in learning tasks) and utility (relevance to future goals). It impacts the learning process through both extrinsic and intrinsic forms, with the intersection of these forms enhanced when students experience autonomy, competence, and relatedness. Teachers play an important role in promoting self-regulated learning (SRL) by understanding the variables that influence students' ability to self-regulate their learning strategies. SRL is essential for students to engage in the learning process, improve their learning habits and skills, implement effective learning strategies, monitor their performance, and evaluate their educational improvement (Zumbrunn et al., 2011). Therefore, motivation and engagement are factors of significant importance that significantly influence students' academic success and language proficiency (Bai & Zang, 2025; Hariri et al., 2021).

The most effective way to encourage student motivation is by fostering a learning environment that provides opportunities for real active participation and meaningful learning. To improve both short-term learning experiences and long-term educational outcomes, these settings support student autonomy, positive emotions, self-directed learning, and cognitive development (Schweder & Raufelder, 2022).

An important aspect is creating an emotionally supportive environment that stimulates the senses and promotes enthusiasm, curiosity, and happiness. Positive emotions contribute to higher academic achievement, more effective learning strategies, and the development of students' social and cognitive skills. It is important to grant students autonomy, allowing them to make decisions and have freedom in their educational journey. Teachers facilitate self-regulated learning by helping students set their own goals, monitor their progress, and adapt their learning strategies (Gambo & Shakir, 2021). Flexibility and self-direction are emphasized, with students setting their own learning goals, choosing materials, and setting deadlines, which inspires increased engagement and motivation (Gambo & Shakir, 2021).

Social interactions and collaboration are also essential, as stimulating environments provide opportunities for peer interactions, group projects, and social learning, improving emotional well-being and motivation through social connection (Schweder & Raufelder, 2022). Effective integration of information and communication technology (ICT) is a key element, providing flexibility, access to diverse educational resources, and facilitating personalized and adaptable learning experiences (Valtonen et al., 2021).

It is important not to forget the role of design and physical space, which are part of the essential characteristics of stimulating environments, including comfortable and adaptable spaces that support collaborative activities, individual study and technology integration, improving student focus and overall satisfaction (Hong & Cho, 2025).

Pedagogically, stimulating environments move away from traditional methods, toward interactive, collaborative, and inquiry-based approaches such as blended learning, flipped classrooms, and problem-based learning, creating dynamic educational experiences (Valtonen et al., 2021; Xiaohong, Soo Boon, & Hao, 2024).

We chose to adopt a qualitative approach to capture the nuances and details necessary for identifying and thoroughly analyzing the factors that influence the effectiveness of stimulating learning environments, as well as providing guidance for the continuous improvement of educational practices.

The objectives of the qualitative research focused on exploring innovative approaches to creating engaging learning environments, analyzing the processes involved in the design of educational content, assessing its impact on student progress, and examining tools for the ongoing enhancement of learning environments. In addition to these main objectives, several secondary objectives were also established. These include the investigation of instructional design and stimulating learning activities aimed at achieving long-term results among

students, as well as the conceptual delimitation of a stimulating learning environment and the definition of relevant teaching strategies.
To investigate these objectives, we used qualitative research methods and tools such as participant observation, interviews, and content analysis, to address the research questions (Creswell, 2014, pp. 183–186). The data collection process involved observing educational phenomena in their natural context, conducting interviews, and analyzing relevant documents such as articles, books, and other sources that addressed the main topics related to the article's title. This process was complemented by data analysis using various methods, including the identification of patterns and trends, to interpret their significance.

Personal Position

This article represents a practical evaluation assignment within the seminar activities of the course Foundations of Pedagogy, during which the instructor provided a set of key terms closely related to the fundamental educational aspects of pedagogy. Throughout the semester, a group of students interested in these educational phenomena collaborated in the development of the article's content under the continuous guidance and supervision of the course instructor. The instructor was also responsible for the final configuration of the article, selecting and analyzing the most relevant information and findings in relation to the main topic and purpose of the paper. The guiding principle throughout this process was the focus on quality and relevance, ensuring that the response to the research question would be clear and concise.

Data collection and analysis

The methods of data collection employed in this basic qualitative research included participant observation, semi-structured interviews, document analysis. These methods are commonly applied in practical fields such as education, health, and social services (Baarda & de Goede, 2001, pp. 98–112).
Participant observation enabled the examination of various teaching strategies and the ways in which educational content was delivered by teachers across different levels of the Romanian education system. The objective was to theoretically determine how instructional activities can be structured to create stimulating learning environments for all learners, considering their individual experiences.
This method helped clarify the theoretical content and key research directions, directly supporting the central research question: How can educational activities and stimulating learning be designed to produce long-term outcomes for learners?
Semi-structured interviews were conducted with a subgroup consisting of ten teachers and ten university-level learners. These interviews

explored multiple perspectives on how a stimulating learning environment can be created, without aiming for statistical generalization.

Q1. In your opinion, what are the most effective teaching methods for fostering long-term learning?

We discussed with both teachers and learners various traditional and modern teaching methods, with the intent of exploring digital, technology-based methods, as well as approaches involving conversation, reading, and games.

Q2. How can teachers adapt instructional activities to meet the individual needs of learners?

Learners: We aimed to assess their awareness of such activities by asking them how they think a teacher might design a learning task that addresses the individual needs of most of their students, encouraging them to imagine themselves in the role of the teacher.

Teachers: We sought their professional perspective on the applicability of instructional planning centered on learners' individuality, and whether they believe that a diversified or individualized curriculum can be implemented across all levels and categories of learners.

Q3. What role does feedback play in stimulating learning, and how can it be optimized for long-term results?

Learners: We explored whether they expect feedback from teachers and whether they are affected by delays in receiving it.

Teachers: We asked how and when they provide feedback to learners, and what causes delays in delivering it.

Q4. How does the learning environment (both physical and psychological) influence the effectiveness of stimulating educational activities?

We investigated whether the learning environment has a positive or negative influence on the effectiveness of stimulating educational activities, from the participants' point of view.

Q5. How can the success of an educational activity be evaluated in terms of its long-term impact on learners?

Learners: They discussed whether their current learning process has given them the opportunity to achieve long-term learning.

Teachers: We asked whether they feel the education system allows them to emphasize quality, long-term learning outcomes for their students, which are necessary for their personal and professional lives, and whether this is achievable in full or only partially. We also asked whether they believe they need additional psycho-pedagogical training programs to design activities that stimulate student learning.

Learners: They were also asked whether they believe it is more effective to plan activities in such a way that they can participate

actively in their own learning processes, and whether this approach reflects an ideal vision of a learning environment that motivates them to enjoy learning.

Various bibliographic sources were analyzed and clearly presented in each subsection and in the bibliography section at the end of the article. We aimed to use both translated and English-language sources, not only Romanian ones. Additionally, we sought academic materials that presented educational experiments relevant to the topic under study.

Interview and partial observation

Regarding the application of the research methods of participant observation and interview, once we obtained the approval of the head of the teacher training department in Constanța, we chose to observe directly during seminar activities the learning outcomes associated with various methods and the perspectives of colleagues after each implementation. This strategy was carried out by our supervising professor, and all students were informed about the research activities.

The methods were applied not only to the phenomena addressed in this article but also to other educational aspects, using different research tools such as the interview. The interview was conducted with a group of ten students or trainees with various specializations and learning experiences. The ten participants from the teaching group were selected based on their willingness to respond.

Nothing was conducted in an official format. The interviews, especially those with teachers, were presented as open and anonymous conversations with a clearly defined purpose related to our article's research. The completed interview forms were shown to the participants after the discussions to ensure that their answers would remain anonymous.

Before conducting the interviews, we analyzed events and student reactions after each teaching activity. Then we developed a set of questions, which we tested on a group of students. After this testing phase, we selected the main questions, previously presented, which allowed us to engage the participants in discussions through additional sub questions. This process helped us reach the objective of applying the method and investigating the most relevant teaching strategies for creating a stimulating learning environment.

We followed the scientific steps for building the interview, which allowed us to obtain a strong analytical structure (Muzari T, Shava GN, Shonhiwa S, 2022).

Ethical considerations

The participants were informed that their responses would remain confidential and that the purpose of the data collection was strictly scientific, specifically related to the research on the article's topic. This

research was conducted with the approval of the Department of Teacher Training in Constanța as part of a practical activity within the seminar sessions of the course Foundations of Pedagogy during the second semester of the 2023/2024 academic year.

Results

The following results are based on responses collected through a semi-structured interview applied to a group of university and pre-university teachers and students. Each question in the interview was specifically designed to explore different aspects of stimulating learning strategies and was subsequently processed using the Jamovi statistical analysis software.

The participants' answers were coded into categorical variables, and for each item, Jamovi generated corresponding graphical representations (bar charts and pie charts), allowing for a clear visualization and percentage-based descriptive interpretation of the data.

Thus, the findings presented below are based on both the participants' qualitative inputs and the statistical descriptive analysis of their responses.

The stimulating learning environment

The analysis of the interview data, supported by graphical representations generated through Jamovi, revealed that teachers perceive the educational environment as having a significant influence on the stimulation of learning. Specifically, 50 **%** of teachers noted that if the family environment does not adequately support the learner's education, it becomes much more difficult to ensure proper academic preparation in school settings. Some teachers emphasized that in extreme cases, a lack of family support could even lead to early abandonment of formal education (see Figure 1).

Conversely, 30 **%** of teachers did not perceive the environment as significantly influencing learning, while 20 **%** stated that a supportive environment, marked by effective communication, educational motivation, and proper classroom management, can positively influence learning outcomes.

Analyzing learners' responses, it was observed that 40 **%** believe that their environment has positively influenced their learning. They attributed this to the encouragement received from family, teachers, and peers, who motivated them to actively engage in their educational journey (see Figure 2).

On the other hand, 30 **%** of learners indicated that their environment had no significant impact on their learning, except for uncontrollable genetic factors, while another 30 **%** felt that their environment negatively affected their academic engagement.

Bibliographic analysis also emphasizes the critical role of stimulating learning environment. Georgescu (2024) states that a dynamic educational setting fosters engagement and motivation by offering interactive, varied, and technologically enriched experiences.

Foca (2024) describes the learning environment as the "second teacher," emphasizing its role in enhancing creativity, exploration, and effective learning.

Hlaciuc et al. (2023) argue that educational institutions in Romania should ensure a safe, modern environment, with appropriate facilities and access to modern technologies to stimulate students' learning potential.

Şerbănescu et al. (2020) highlight factors such as classroom design, space, lighting, ventilation, and furniture arrangement as directly impacting students' concentration and learning efficiency.

The importance of classroom color schemes is also underlined, as appropriate colors (yellow, green, blue, red) stimulate attention and creativity (Ungureanu, 2016).

Finally, Maier (2022) emphasizes that effective communication, both verbal and non-verbal, along with continuous emotional support from teachers, plays a vital role in creating a truly stimulating educational environment.

In summary, both the physical and psychological environment significantly contribute to the stimulation of learning, fostering students' engagement, motivation, and long-term academic success.

Stimulating learning strategies

The study conducted by Anca Dranga (Moraru) (2022) highlighted significant results regarding the impact of modern teaching methods on students' academic success. A notable improvement in academic performance was observed during the second semester, when a modern teaching method was used, compared to the first semester characterized by traditional teaching methods.

Students' academic success improved by approximately 12 %, reflecting a better understanding and retention of theoretical knowledge, as well as greater personal development (Anca, 2022).

Based on the analysis of teachers' responses, it was found that 30 % use traditional methods, 20 % use digital methods, and 50 % believe that traditional methods are most effective for creating a stimulating learning environment (see Figure 3).

Regarding students' preferences, 60 % favor instructional activities designed through modern teaching methods, while 40 % prefer digital methods (see Figure 4).

Many teachers indicated a reluctance to move beyond their comfort zone, with 60 % citing a lack of time for additional pedagogical

training and experimentation, and 40 % attributing this reluctance to an overloaded curriculum (see Figure 5).

In terms of teaching methods, 50 % of teachers reported using traditional conversation methods (without heuristic structures), 30 % employed educational games, and 20 % still relied on direct information transmission (see Figure 6).

Learners reported that interactive activities, particularly discussions and games, significantly enhanced their knowledge retention compared to traditional methods like reading or lecturing.

According to Verdeș (2018), 94 % of teachers reported using interactive strategies, and 86 % of students evaluated the teaching-learning process positively. However, in our study, 50 % of teachers indicated that the educational system does not support flexible and individualized teaching, while 30 % believed such flexibility is only partially possible (see Figure 7).

Regarding the applicability of individualized instructional planning, 40 % of teachers agreed, 30 % partially agreed, and 30 % disagreed (see Figure 8).

Concerning a diversified or individualized curriculum, 40 % found it partially applicable, 30 % disagreed, while 10 % agreed and another 10 % fully agreed (see Figure 9).

Learners indicated that teachers emphasize their individuality primarily through continuous feedback (40 %), understanding individual needs (30 %), personalizing learning materials (20 %), and using diverse methods (10 %) (see Figure 10).

Regarding the effectiveness of long-term learning, 40 % of learners believed the educational process did not offer such opportunities, while 30 % disagreed, 20 % agreed, and 10 % partially agreed (see Figure 11).

As for flexible curricula, 70 % of learners preferred programs that allow active participation, while 30 % partially agreed (see Figure 12).

Regarding an ideal learning environment, 60 % of learners responded affirmatively, while 40 % partially affirmed (see Figure 13).

Regarding feedback practices, 40 % of teachers provide immediate feedback during activities, 30 % partially achieve this, and 30 % provide feedback mainly at the end (see Figure 14).

Learners' expectations for feedback show that 70 % do not always expect immediate feedback, while 30 % consider it essential (see Figure 15).

Feedback delays were reported to cause stress for 60 % of learners, while 40 % stated the impact depends on context and emotional state (see Figure 16).

Finally, regarding the need for psychopedagogical training programs, 40 % considered it necessary, another 40 % partially necessary, and 20 % did not see it as necessary (see Figure 17).

Conclusions

The development and evolution of stimulating learning environments are intrinsically linked to advancements in the design and implementation of educational content, and, indeed, are a product of these advancements. A primary goal in creating such environments is to cultivate students' long-term learning outcomes, critical thinking abilities, and creativity. Every element within the educational institution significantly influences the learning process. These elements range from physical resources, such as furniture, to the impact of teachers' and students' actions on instructional design, teaching practices, and assessment methods. The diverse range of strategies available for fostering stimulating learning environments enables educators to select the most appropriate approaches for their specific contexts, thereby enhancing the potential for success.

The strategic combination of various methods, tailored to meet the diverse needs of students, can substantially enrich these environments. Both the methodological and personal approaches adopted by teachers, when effectively implemented, contribute to the creation of stimulating learning environments. Analysis of data from interviews and bibliographic research reveals a complex interplay of factors shaping educational environments and the implementation of stimulating learning strategies. Teachers and students expressed varying perspectives on the influence of the learning environment. Specifically, 50% of teachers perceived that the family environment can negatively affect students' academic preparedness in the school setting, while 30% believed the environment had a negligible influence, and 20% considered that it could exert a positive effect under certain conditions. Students also demonstrated diverse perceptions regarding the impact of the environment on their learning. While 40% of students reported that the environment positively influenced their learning experiences, 30% perceived no effect, and 30% indicated that the environment had a negative impact. Teaching methods and feedback are critical determinants of effective learning. Research suggests that the adoption of contemporary teaching methods can significantly enhance academic achievement and improve student performance. However, a discrepancy exists between teachers' and students' preferences regarding instructional approaches. Notably, 50% of teachers reported employing traditional methods to engage students, whereas only 20% utilized digital methods. Regarding feedback, 40% of teachers

indicated providing direct and timely feedback during instructional activities, while 60% reported inconsistencies in providing such feedback. The provision of timely and ongoing feedback is widely acknowledged as essential for learners, as it can reduce stress and optimize the learning process. However, challenges persist in delivering feedback promptly and effectively, and delays in this regard may lead to frustration and increased stress among learners.

In addition to these considerations, the importance of psychopedagogical training for teachers is acknowledged, to equip them with the skills necessary to effectively manage the evolving demands of the educational landscape.

In summary, the evidence suggests that stimulating educational environments and the implementation of contemporary teaching strategies are vital for promoting effective learning and fostering students' academic success.

Teachers' interview questions table

Q1. In your opinion, what are the most effective teaching methods that stimulate long-term learning?	Traditional methods	Modern methods	Digital methods	
Q2. Frequently used methods	Conversation	Reading	Game	
Q3. Do you consider that a teaching plan based on the individuality of the students is applicable?	Yes	No	Partially	Not at all
Q4. Do you believe that a diversified/individualized curriculum can be applied to all levels and categories of students?	Yes	No	Partially	Not at all
Q5. How do you provide feedback to students?	Immediately after the activity	Periodically	At the end of the learning unit	
Q6. What are the causes of delays in providing feedback?	Insufficient time	High workload		

Q7. How does the learning environment (physical and psychological) influence the effectiveness of stimulating educational activities?	Has a negative influence	Has a positive influence	Does not have a significant influence	
Q8. Does the education system allow you to emphasize achieving quality long-term learning for students?	Yes	No	Partially	Not at all
Q9. Do you consider that you need psycho-pedagogical training programs to create activities that stimulate student learning?	Yes	No	Partially	Not at all

Student interview questions table

Q1. In your opinion, what are the most effective teaching methods that stimulate long-term learning?	Traditional methods	Modern methods	Digital methods	
Q2. What are, in your opinion, the most effective teaching methods that stimulate long-term learning?	Conversation	Reading	Game	
Q3. How can teachers adapt teaching activities to suit the individual needs of students?	By having an in-depth knowledge of the individual needs of the students	By using diverse teaching methods	By personalizing teaching materials	Through continuous feedback and constant adaptation of activities
Q4. Do you	Yes	No	Partially	Not at all

expect feedback from teachers?				
Q5. Are you bothered by delays in receiving feedback?	Yes	No	Partially	Not at all
Q6. How does the learning environment (physical and psychological) influence the effectiveness of stimulating educational activities?	Has a negative influence	Has a positive influence	Does not have a significant influence	
Q7. Did the education process offer you the opportunity to achieve long-term learning?	Yes	No	Partially	Not at all
Q8. Do you think it is more effective to create schedules that allow you to participate actively in your own learning processes?	Yes	No	Partially	Not at all
Q9. Do you think this scenario represents an ideal vision of an environment that stimulates you to learn with pleasure?	Yes	No	Partially	Not at all

Student results table

NR.	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1.	Traditional methods	Conversation	Yes	No	At the end of the learning unit	High workload	Does not have a significant influence	No	Yes
2.	Modern methods	Game	No	Partially	Immediately after the activity	Insufficient time	Does not have a significant influence	Partially	Partially
3.	Traditional methods	Reading	Partially	Partially	Periodically	Insufficient time	Has a positive influence	Partially	Partially
4.	Modern methods	Conversation	Partially	No	Immediately after the activity	Insufficient time	Has a positive influence	No	Yes
5.	Traditional methods	Game	Partially	Partially	At the end of the learning unit	High workload	Has a negative influence	No	No
6.	Digital methods	Conversation	Yes	Yes	Immediately after the activity	Insufficient time	Does not have a significant influence	Yes	Yes
7.	Tradit	Readin	No	Part	At the	High	Has a	No	Part

	ional methods	g		ially	end of the learning unit	workload	negative influence		ially
8.	Modern methods	Conversation	No	Not at all	Periodically	High workload	Has a negative influence	Partially	Partially
9.	Traditional methods	Conversation	Yes	No	Partially	Insufficient time	Has a negative influence	No	No
10.	Digital methods	Game	Yes	Partially	Immediately after the activity	Insufficient time	Has a negative influence	Yes	Yes

Figure 1. Teachers' perception of the environment's impact on learning

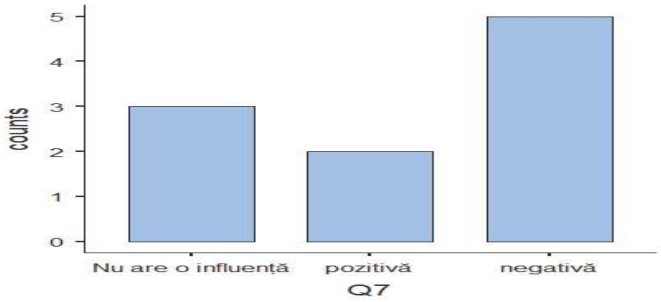


Figure 2. Learners' perception of the environment's impact on learning

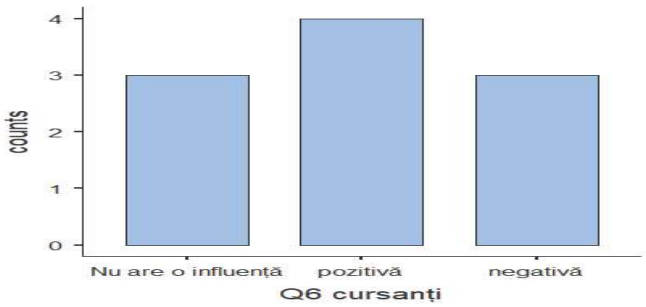


Figure 3. Distribution of teaching methods used by teachers

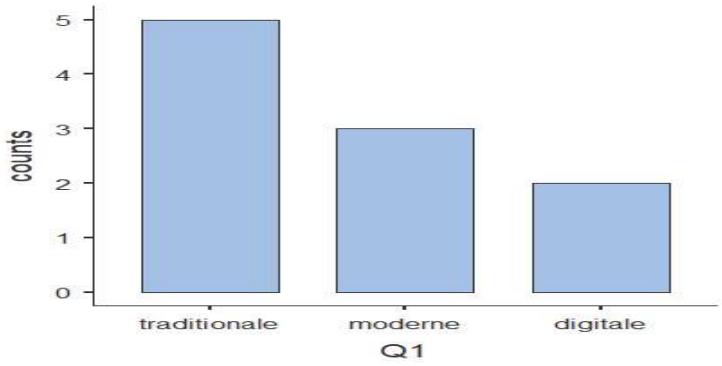


Figure 4. Learners' preferences for instructional methods

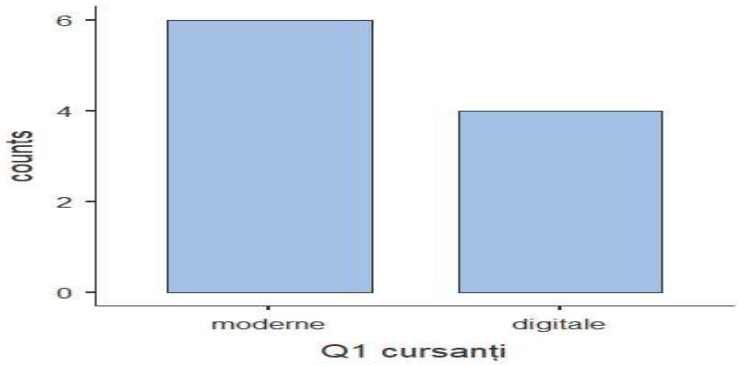


Figure 5. Main obstacles in applying modern teaching methods

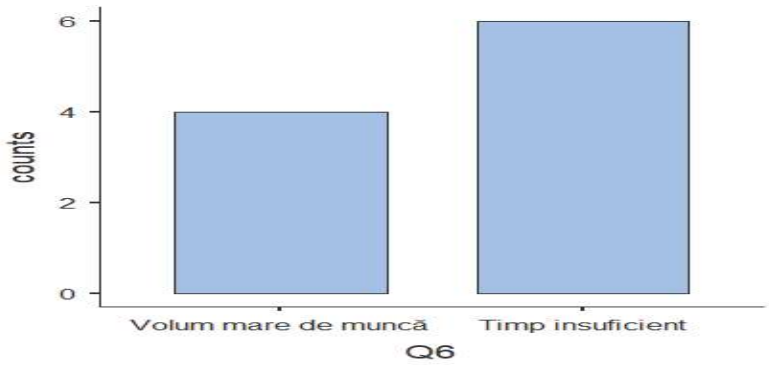


Figure 6. Frequently used teaching methods by teachers

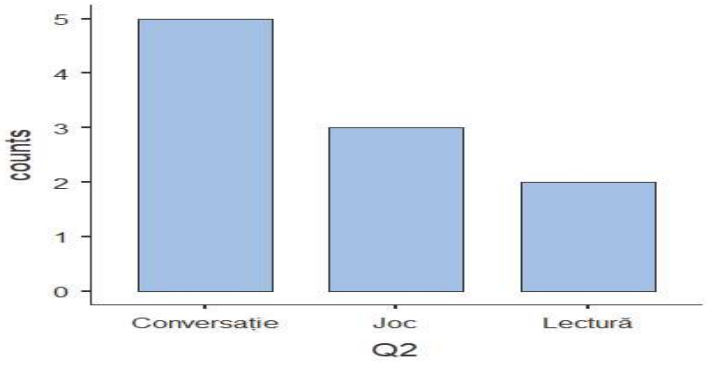


Figure 7. Teachers' perception of flexibility and support for stimulating learning

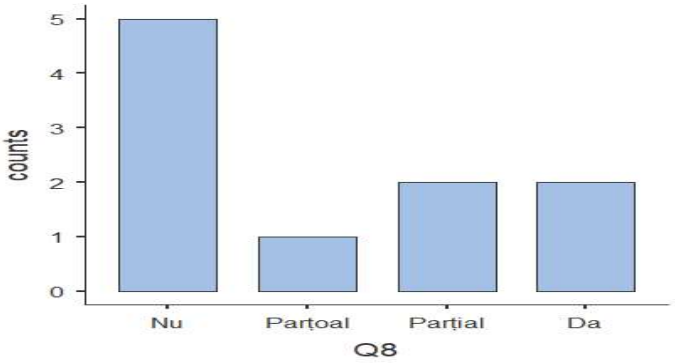


Figure 8. Teachers' perceptions on the applicability of individualized instructional planning

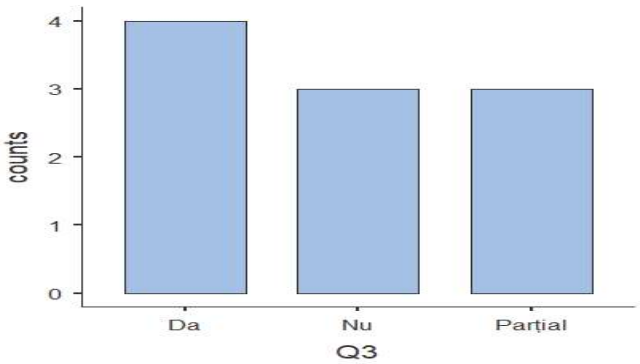


Figure 9. Opinions on the applicability of a diversified/individualized curriculum

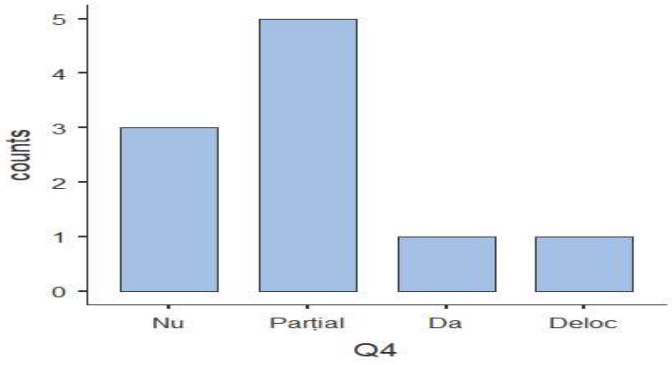


Figure 10. Learners' perceptions of how teachers address individualization

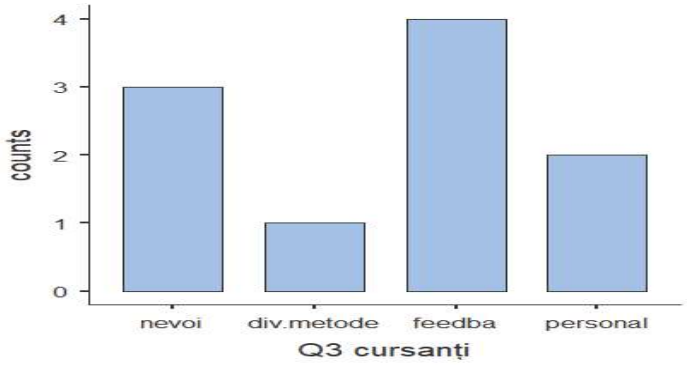


Figure 11. Learners' perceptions of the effectiveness of long-term learning

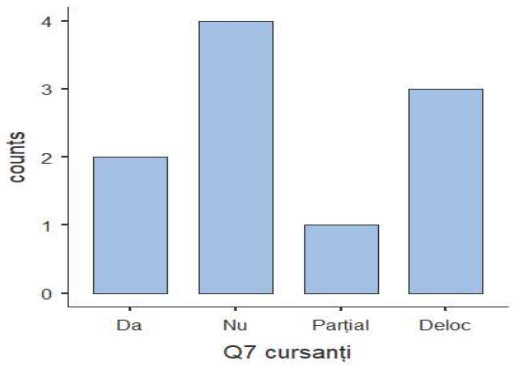


Figure 12. Learners' preferences for a flexible curriculum

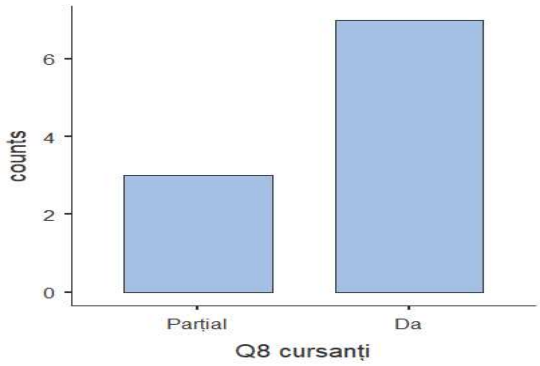


Figure 13. Learners' perceptions of an ideal learning environment

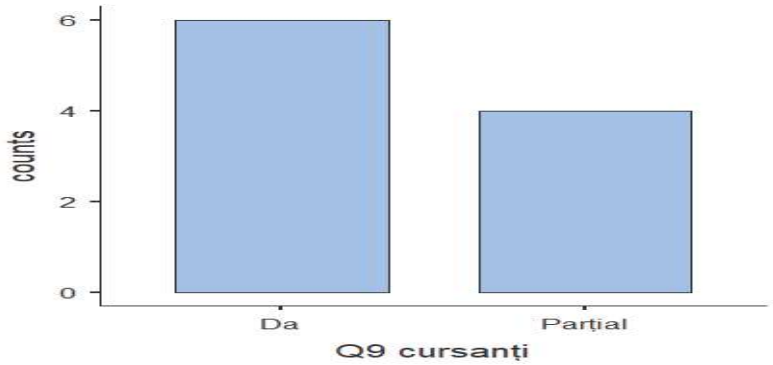


Figure 14. Methods used by teachers to provide feedback

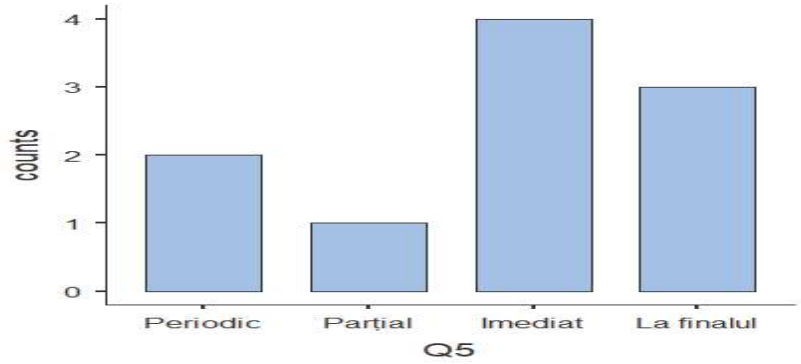


Figure 15. Learners' expectations regarding teacher feedback

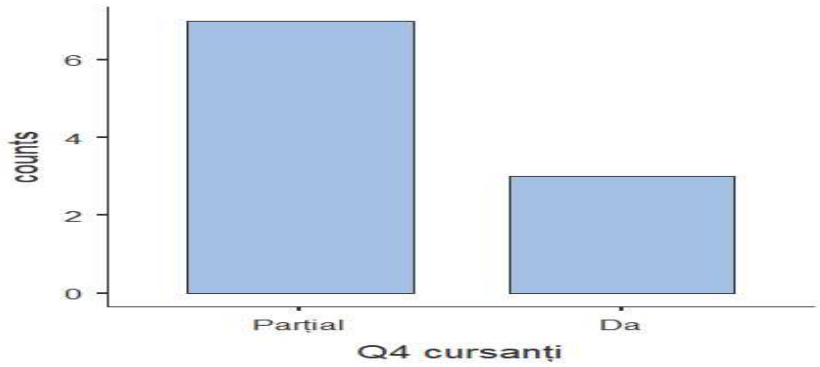


Figure 16. Impact of feedback delays on learners' stress

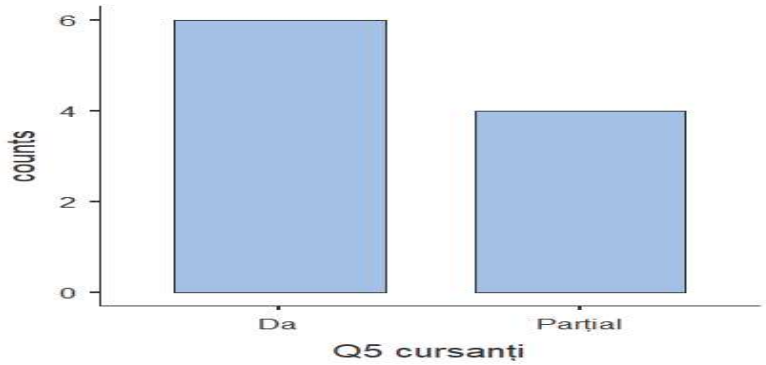
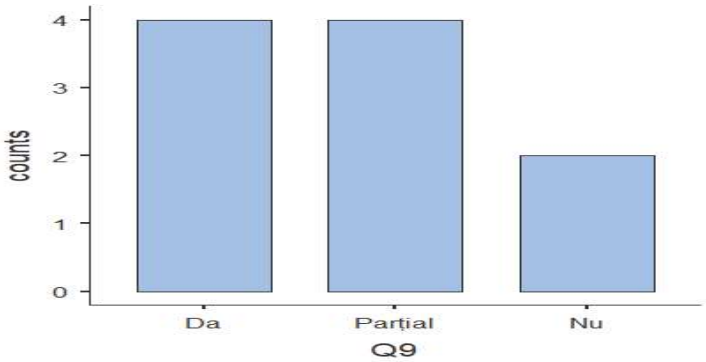


Figure 17. Perceptions of the need for psychopedagogical training programs



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