DIGITAL PLATFORMS, USED IN ACADEMIC LEARNING, DURING THE POST-PANDEMIC PERIOD*

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Abstract

The present study aims to address the issue of digital platforms used during the post-pandemic period in academic education, starting from the premise that some of the digital teaching or learning methods and tools used during the pandemic period, which have proven their effectiveness and usefulness, have continued to be present in the didactic activity.

The research carried out was focused on a sample consisting of 126 students and master's students, who were completing their psycho-pedagogical initial training program for the teaching career and who had the availability to respond to the opinion questionnaire, applied through a Google form.

The results of the questionnaire highlighted some essential aspects regarding the platforms used in academic activity over the period that followed the pandemic and, at the same time, allowed the highlighting of some advantages, shortcomings of their integration in making learning more efficient.

Key words: Digital platforms; Academic learning; Digital learning; Digital divide; Post-pandemic period.

1. Introduction. Theoretical premises of the research

Our study proceeds from three important premises:

• The pandemic period imposed the call to digital technology in order to carry out didactic activities.

• Some of the digital platforms/ tools used during the pandemic have proven their effectiveness in academic education.

• Consequently, the generalization of some educational practices regarding the use of digital resources in the activity with the students is required.

Digital resources can be defined as "Software, programs, applications, platforms, and (online or offline) resources that can be used with computers, mobile

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devices or other digital devices that help people complete a task" Oikonomou, Patsala, 2021, apud Moorhouse, Yan, 2023, p. 1).

Digital technologies include applications that allow the electronic display, storage and transmission of information (Cabi, 2015, apud Yazici, Özerbaş, 2022). The first condition for the use of digital resources is related to the access to infrastructure. From this point of view, it is obvious that, unfortunately, there are differences, sometimes significant, between people regarding the access to digital technologies. The digital divide is "the distance that exists between the people who have access to information and communication technologies and those who do not have it" (Van Dijk, 2017, apud Pérez-Serrano Flores, 2021, p. 1). Pérez-Serrano Flores, quoting Van Dijk (op. cit., p. 2), mentions several aspects that can explain this digital divide (op, the digital divide is determined by: 1. The social inequality that produces an unequal distribution of resources; 2. An uneven distribution of resources which leads to unequal access to digital technologies; 3. An unequal access to digital technologies also depends on the characteristics of these technologies. 4. The unequal access to digital technologies also implies an unequal participation in society. 5. An unequal participation in society reinforces inequalities in the distribution of resources.

According to Nóvoa (2019, apud Graça, Quadro-Flores, Ramos, 2022, p. 378), currently the initial training of teachers should articulate three important components, shown in figure 1, so that universities create environments for a quality training of the teachers to prepare them for the challenges of society nowadays.

Figure 1. Formation Triangle (Nóvoa, 2019, apud Graça, Quadro-Flores, Ramos, 2022, p. 378)

The authors of a guide on the use of digital platforms in the English language arts (ELA) classroom, make some important recommendations regarding digital platforms, grouping them into three categories: 1) choosing, (2) using, and (3) critiquing digital platforms for learning (LeBlanc *et al.,* 2023, pp. 7-9):

1. Choosing Platforms:
   a. Investigate privacy practices
   b. Weigh the time and energy involved in implementation
   c. Evaluate embedded philosophies of teaching and learning.
2. Using Platforms:
   a. Be transparent about platform and data use
   b. Align platform uses with learning goals.
3. Critiquing Platforms:
   a. Critique platforms as part of sustainable professional development.
   b. Advocate for change.

Digital learning itself is a process of acquiring knowledge and learning skills, regardless of the form of competency and knowledge, using digital technology that is effectively accessed through devices such as smartphones or computers (Aditya, 2021, apud Arif, Nurdin, Sururi, 2023, p. 227).

The essential components of digital learning are presented in figure no. 2 (Oregon Department of Education, 2021, p. 3):

Figure 2. Key Components of Digital Learning (după Oregon Department of Education, 2021, p. 3)

What are the elements that ensure the success of digital platforms as learning tools? Faustmann, Lemke, Kirchner, Monett, (2019, p. 3), quoting Strecker, Kundisch, Lehner, Leimeister, and Schubert (2018), mention some essential attributes:

1) Interaction: The possibility to interact with each other.
2) Multi media: The use of different data formats and their processing for learning and teaching.
3) Multi codality: The existence of different symbol systems in a medium.
4) Multi modality: The parallel use of different sensory channels to transmit information.

By using, integrating new technologies in the lesson, the teacher can create a stimulating, motivating environment for the students (Sari, 2022).

In a study carried out at the level of primary and secondary schools, which have integrated digital technologies in the didactic activity from early on, Jewitt *et al.* (apud The Scottish Government, 2015, p. 15) mentions some important benefits:

• The use of digital resources gave students more time for active learning in the classroom;

• Digital tools and resources provided more opportunities for active learning outside the classroom, as well as providing self-directed spaces such as blogs and forums and access to games with learning benefits;

• Digital resources offered students opportunities to choose the learning resources;

• Resources provided safer spaces for formative assessment and feedback.

The introduction of digital platforms in the didactic activity leads to a wider application of the Internet and determines the integration of social networks, electronic portfolios, online courses, interactive tasks, digital means of storing and distributing the material in the educational environment (Vonog, 2018, apud Vonog, Batunova, Kolga, 2021, p. 1).

Also, the use of new communication technologies in the didactic activity transforms the traditional, pedagogical, monologue model, which has the teacher at the center, into a dialogue model, based on interaction, collaboration (Graesser, Sabatini, Li, 2022, apud Cabellos, Pérez Echeverría, Pozo , 2023, p. 1).

Communication interactions, student assessment, the use of technological tools, the online experience, pandemic anxiety or stress, time management and technophobia have been identified as the main challenges of online education (Rajab, Gazal, Alkattan, 2020, apud Sousa, Marôco, Gonçalves, Machado, 2022, pp. 1-2).

The practice of the last years, especially over the period that followed the pandemic, allowed to experiment with numerous ways and variants of integrating digital technologies in the didactic activity, including in forms combined with the face-to-face activity.

The flipped classroom is one of the modalities based on the use of digital technologies, combined with direct interaction, which has recently proven its effectiveness (Peceño-Capilla, Lluch-Molins, Bonilla-Pérez, Bakit, & Cortés-Pizarro, 2022).

Regardless of whether we refer to the activity with the pupils or students, the use of new technologies is a constant in the teaching-learning process in recent years.

2. Research Design

The purpose of the conducted empirical research was to identify the possibilities of capitalizing on digital platforms in the academic didactic activity, during the post-pandemic period.

The research question we started from was the following? Are there digital platforms that are still used in course/ seminar type activities, carried out with the students who are enrolled in the Psychopedagogical Training Program in order to form the skills necessary for the teaching profession?

This question took shape in three hypothetical statements:

1. *The use of digital platforms in the teaching activity is also extended to the post-pandemic period, as an effect of their advantages*
2. *Maintaining the use of virtual classrooms involves more advantages than disadvantages in the academic activity*
3. *The efficiency of digital platforms is greater in the case of course activities and asynchronous ones*

In order to validate these hypotheses, we initiated an empirical research of a constative type, on a ***sample*** consisting of 126 students and master's students of the University of Craiova.

The research tool we used was the ***opinion questionnaire***, applied through a google form. It included 9 items with closed answers, 2 items with open answers, 3 factual questions, regarding the status of the respondents (student/ master's student; faculty; specialization).

3. Results and Discussion

Next, we are presenting the results recorded in the applied opinion questionnaire, the answers given by the respondents being interpreted from the perspective of their possibility to validate/ deny the established hypotheses.

Thus, for the first hypothesis, ***The use of digital platforms in the teaching activity is also extended to the post-pandemic period, as an effect of their advantages,*** we have inventoried the answers to items 1, 2, 3 and 4 (of which question no. 2 was a multiple choice one).

Question no. 2 asked the subjects for their opinion on the situations when they continued to use digital platforms in academic activity, during the post-pandemic period. As can be seen in figure no. 3, almost half of the respondents said that they use these platforms only in certain situations, and 46% of them say that they use them in all situations.
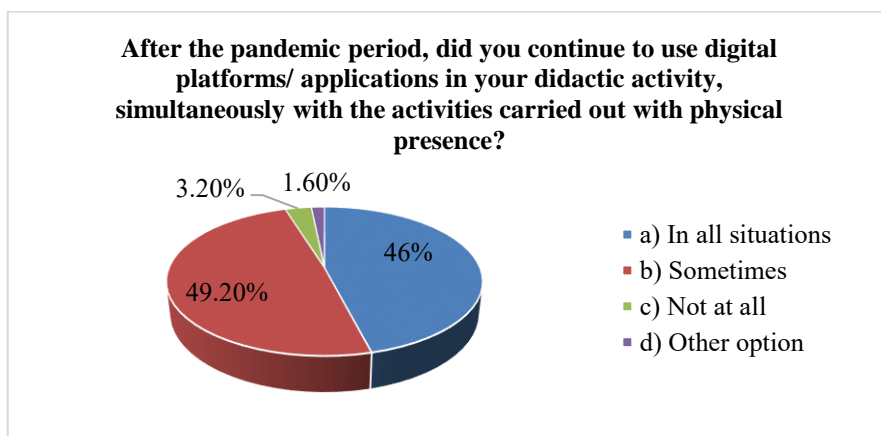

Figure 3. The students' opinion regarding the frequency of using digital platforms in the teaching activity, during the post-pandemic period

Among the most frequently used platforms, Google Classroom stands out (93.7%), followed by Google Meet (82.5%) and ZOOM (71.4%), as can be seen in figure 4.
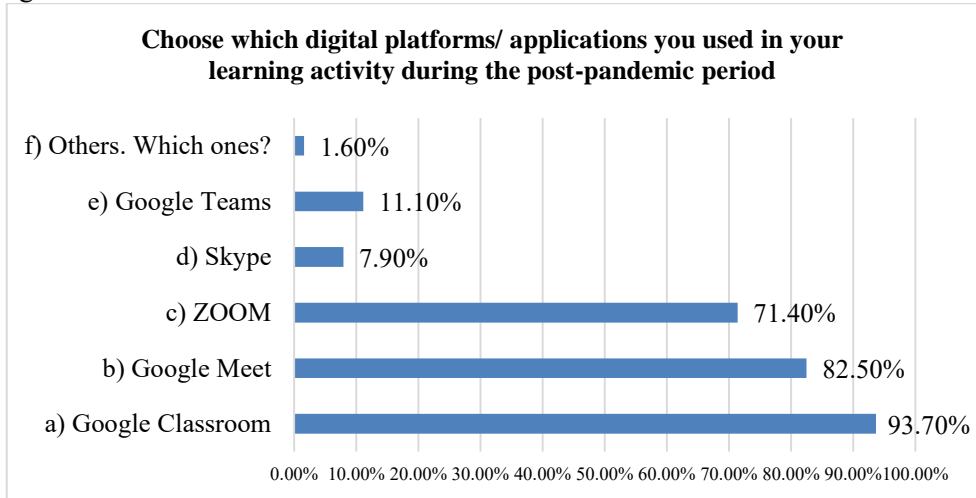

Figure 4. The students' opinion on digital platforms used during the post-pandemic period

Although it is obvious that the three previously mentioned platforms were at the top of the teachers' preferences, the hierarchy no longer holds when we refer to the students' preferences. As can be seen from their answers to item 3, only Google Classroom is among their preferences (77.8%), not Google Meet or ZOOM, applications that offer the possibility of conducting synchronous activities (figure 5).
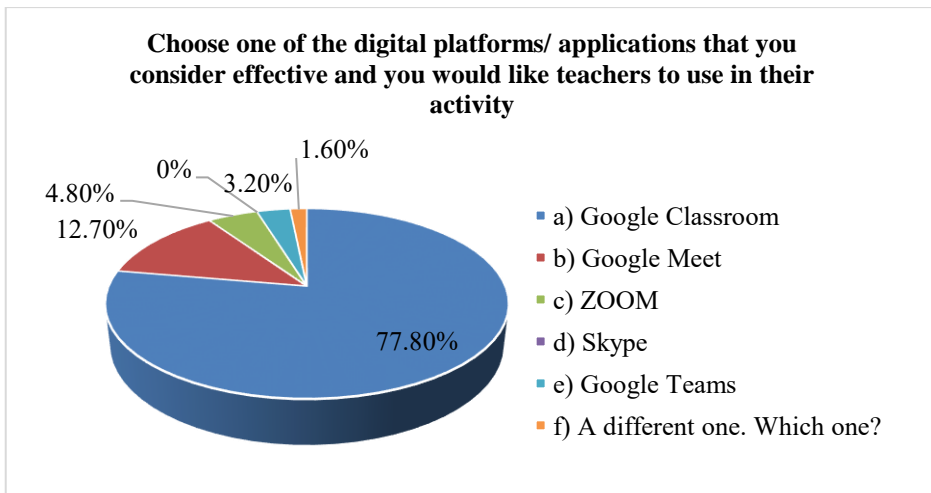
Figure 5. The students' opinion on the used digital platforms considered to be effective

A large part of the respondents (76.2%) express their total agreement with the continued use of digital platforms in their academic activity (figure 6).
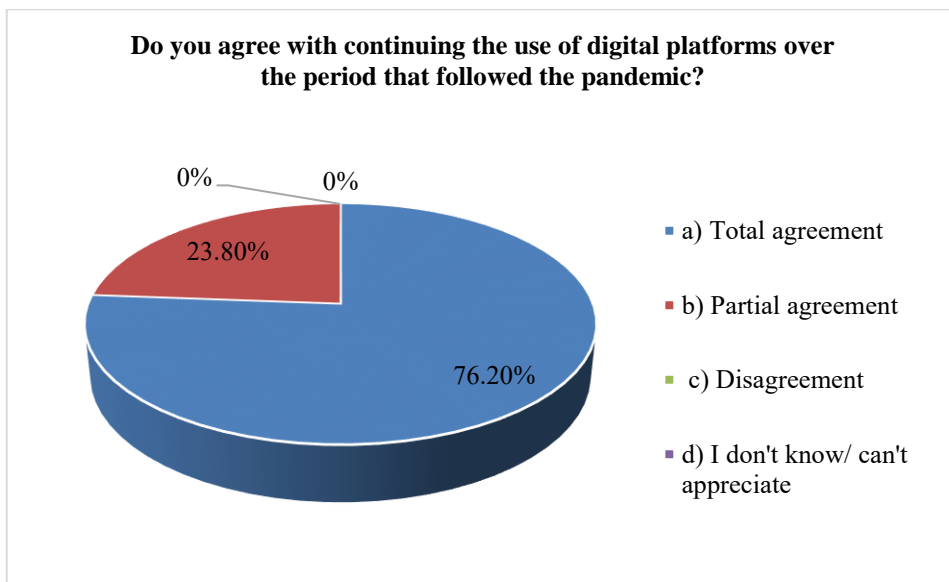
Figure 6. The students' opinion regarding the continued use of digital platforms in the didactic activity

The previously presented results confirm the truth value of hypothesis 1.

For hypothesis no. 2. ***The efficiency of digital platforms is greater in the case of course activities and asynchronous ones,*** we are presenting the results recorded in questions 5, 6 and 7 (questions 5 and 6 were open questions).

Question 5 sought to highlight the advantages of maintaining the use of digital platforms in the didactic activity.

We are presenting, in summary, some of the most frequently mentioned advantages:

- Facilitating access to courses, for people who cannot physically participate; attending the courses in case of poor health; greater attendance in classes
- Teachers can manage the students' homework more effectively
- Extensive accessibility: Digital platforms enable access to educational resources at a distance, which can help continuous learning and overcome geographical barriers
- Enhanced interactivity: With the help of digital tools, interactive lessons, educational games and personalized exercises can be created which can increase student engagement and understanding.

- Ease of resource management: Teachers can store and organize the teaching materials, monitor and evaluate student progress, and communicate more effectively with the students through digital platforms
- The possibility to post audio and video materials for a thorough understanding of the course
- It allows synchronous and asynchronous teacher-student interaction.

As major disadvantages (question 6), the students mentioned:

- Not all students have access to equipment and high-speed internet connection, which can lead to a discrepancy in their learning participation.
- Teaching exclusively online can reduce face-to-face interactions between teachers and students, which can affect the development of social skills and non-verbal communication.
- Excessive use of technology can lead to student overload
- In the case of practical work, the use of digital platforms is not useful
- It allows copying, unforeseen technical problems may arise, the materials may seem unclear without the direct help of the teacher
- Dependence on technology and the risk of social isolation, jeopardizing data security and privacy.

Item no. 7 sought to know the students' opinion regarding the efficiency of the continued use of digital platforms in the didactic activity. Most (83.7%) consider these platforms to be highly effective (figure 7).
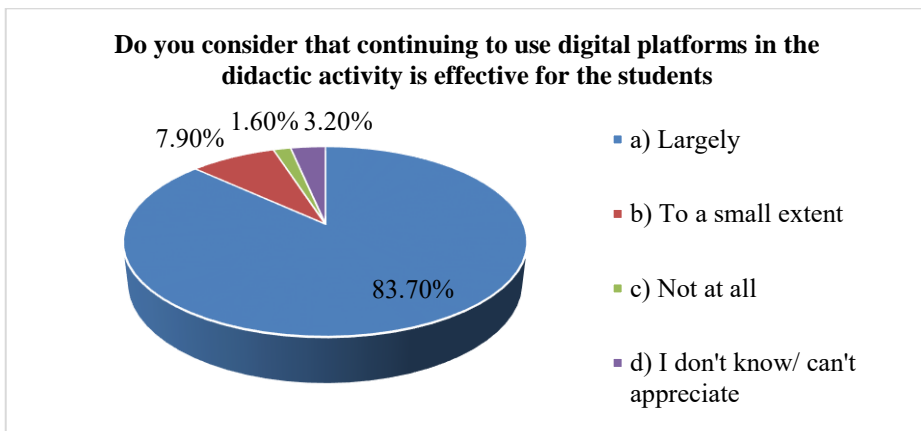

Figure 7. The students' opinion regarding the efficiency of using digital platforms in the didactic activity during the post-pandemic period

Hypothesis no. 2 of the research is also validated, as it could be seen from the results presented previously.

For hypothesis no. 3, ***The efficiency of digital platforms is greater in the case of course activities and asynchronous ones,*** we are using the recorded answers to questions 8, 9, 10, 11.

More than 60% of the surveyed students express their total agreement regarding the effectiveness of digital platforms in course-type activities (figure 8).
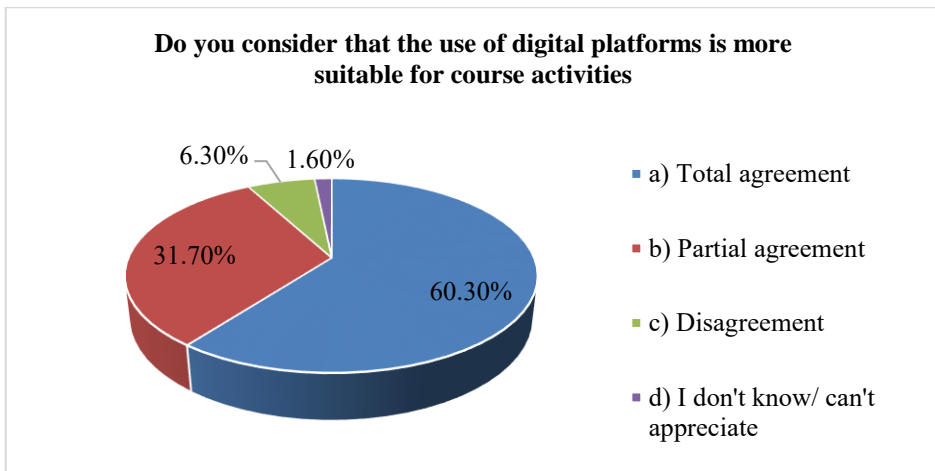
Do you consider that the use of digital platforms is more suitable for course activities

6.30%   1.60%

31.70%

60.30%

- a) Total agreement
- b) Partial agreement
- c) Disagreement
- d) I don't know/ can't appreciate

Figure 8. The students' opinion regarding the efficiency of using digital platforms in course-type didactic activity

For seminar-type didactic activities, approximately half of the students express total agreement with their usefulness (figure 9), the percentage being obviously lower than that expressed for course-type activities.
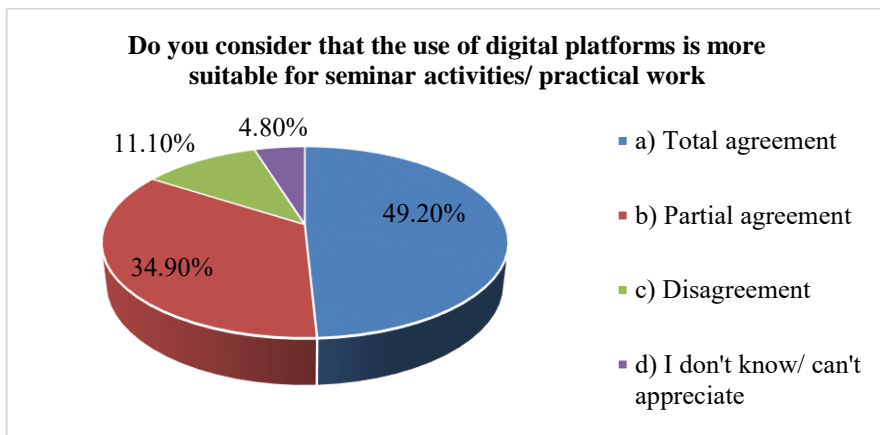
Do you consider that the use of digital platforms is more suitable for seminar activities/ practical work

11.10%   4.80%

34.90%

49.20%

- a) Total agreement
- b) Partial agreement
- c) Disagreement
- d) I don't know/ can't appreciate

Figure 9. The students' opinion regarding the efficiency of using digital platforms in the seminar/ practical-type didactic activities

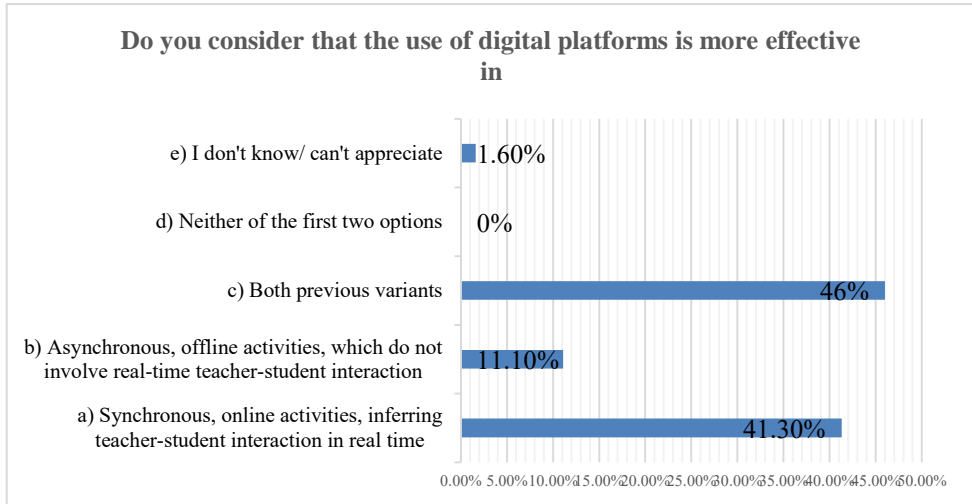Almost half of the students think that both synchronous and asynchronous activities are equally effective (figure 10).

Figure 10. The students' opinion on the effectiveness of using digital platforms in synchronous/asynchronous activities

It can also be concluded that digital platforms are also effective to a great extent in the assessment activity, as claimed by almost 70% of the surveyed subjects (figure 11).
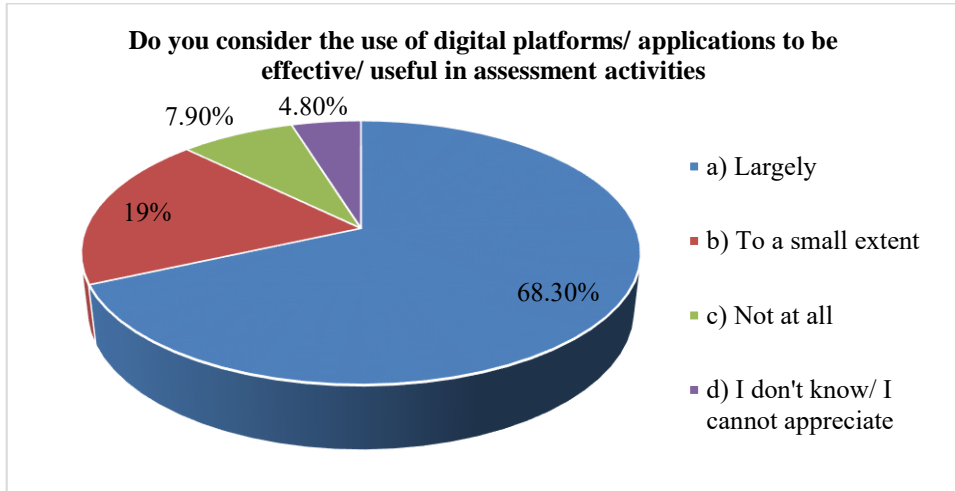

Figure 11. The students' opinion on the effectiveness of using digital platforms in assessment activities

The answers of the respondents to the last questions allow a conclusion to be drawn on the validity of hypothesis no. 3, which is only partially confirmed. Although the students admit that digital platforms are more suitable in course activities and less in seminar activities, however, they consider that they prove their

usefulness in both ways of conducting activities, synchronously and asynchronously. We deduce from this, a slightly contradictory character of the given answers, taking into account the fact that, usually, course activities are carried out synchronously.

4. Conclusions

Following our investigation, the following important aspects have taken shape:

- Most respondents consider it useful to maintain the use of digital technology in the academic activity
- Students believe that digital platforms are more effective in course activities compared to seminar/ project activities, in both asynchronous and synchronous activities
- It is important to balance the advantages and disadvantages of using digital platforms in education and integrate them properly to ensure effective and equitable education.
- There are specializations or topics that make it difficult to carry out the activity in online format (for example, for specializations in the field of music, acting).

We are concluding that the didactic activity, carried out in the present, regardless of the context, the level, the age of the beneficiaries, can no longer put aside the use of resources, of digital platforms, as tools or support in learning.

The use of digital resources in higher education is correlated, in recent years, with the concept of sustainable development. In this context, higher educational institutions have gradually become essential platforms for promoting sustainable development in the 21st century (Chen, Luo, Chen, Guo, 2022, apud Huang, Li, Huang, Jiang, 2023, p. 2).

Digital teaching platforms in the new era can create rich and diverse online teaching resources, help teachers make flexible teaching plans, and students achieve effective autonomous learning (Su, Jiang, 2021). They ensure an increase in student satisfaction, also having effects on reducing school dropout (Boozer, Simon, 2020).

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