# Undergraduate Students' Opinion on Digital Learning in a Post-pandemic Era: A Case Study

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**ABSTRACT.** The current article aims to investigate learners' post-pandemic attitude towards digital learning in Higher Education with a specific focus on a group of undergraduate Law students at Babes-Bolyai University from Cluj-Napoca, Romania. To achieve its purpose, the article focuses on answering two research questions: Do post pandemic undergraduate students recognize the benefits of digital learning? Is e-learning currently a reasonable choice for them? The research is designed as an exploratory case study that uses three data collection tools: a questionnaire, an interview, and a classroom observation protocol. The article links information from literature related to the use of digital learning during the pandemic with results revealed by the data collected in the case study. The results suggest a steady trend towards a growing acceptance rate of digital learning by the targeted student population and a lower approval rate of elearning.

**Keywords:** higher education, digital learning, online learning, pandemic, good teaching practices.

**ZUSAMMENFASSUNG.** Der aktuelle Artikel zielt darauf ab, die Einstellung der Lernenden nach der Pandemie zum digitalen Lernen in der Hochschulbildung zu untersuchen, wobei der Schwerpunkt auf einer Gruppe von Jurastudenten im Grundstudium an der Babeş-Bolyai-Universität aus Cluj-Napoca, Rumänien, liegt. Um sein Ziel zu erreichen, konzentriert sich der Artikel auf die Beantwortung zweier Forschungsfragen: Erkennen Studierende nach der Pandemie die Vorteile des digitalen Lernens? Ist E-Learning derzeit eine sinnvolle Wahl für sie? Die

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Forschung ist als explorative Fallstudie konzipiert, die drei Datenerfassungstools verwendet: einen Fragebogen, ein Interview und ein Beobachtungsprotokoll im Klassenzimmer. Der Artikel verknüpft Informationen aus der Literatur zum Einsatz digitalen Lernens während der Pandemie mit Ergebnissen, die sich aus den in der Fallstudie erhobenen Daten ergeben. Die Ergebnisse deuten auf einen stetigen Trend hin zu einer steigenden Akzeptanzrate des digitalen Lernens durch die Zielgruppe der Studierenden und einer geringeren Zustimmungsrate von E-Learning hin.

**Schlüsselwörter**: Hochschulbildung, digitales Lernen, Online-Lernen, Pandemie, gute Lehrpraktiken

### **INTRODUCTION**

The year 2020 made history in education by adopting an unexpected and abrupt passage to online teaching. The Covid 19 pandemic created the needed context and occasion to test the efficiency of digital teaching and learning in a worldwide hub where specialists tried to give solutions and to find adequate educational tools. Studies conducted in that period researched the potential and the outcome of using digitalization in education at all levels, Further and Higher Education included.

Among them, the conclusions of an official EU (European Union) document on how the pandemic's impact has been valued for digital and online learning practices.

"The COVID-19 pandemic has cultivated a new cohort of students who were not interested in fully online learning previously, representing a sizable new source of online learners" (Capranos et al.:2021),

Therefore, it was concluded that teaching needed to pursue this trend and offer a fair level of knowledge necessary in students' future careers.

However, opinions and attitudes are changing variables if they are linked to specific situations such as the pandemic. In a study issued in 2022, Nikolopoulou focused on university students' opinions and preferences on different modes of education (Nikolopoulou:2022). The findings reveal a steady trend towards inperson learning while compared to the online alternatives, a choice that is supported by the results of other research performed in different geographical areas of the world (Finlay et al.:2022; Iqbal et al.:2022; Pongkendek et al.:2021; Khan at al.:2022; Zapata-Cuervo et al.:2021). The current study's aim is to contribute to existing discussions on the topic with a point of view based on academic inquiries from Babes-Bolyai University in Cluj-Napoca that could be used for other studies. The importance of these studies for higher education is significant as students' attitude towards modes of education is a relevant factor in deciding educational policies in Higher Education.

### LITERATURE REVIEW

Digital learning or D-learning is "any type of learning that is facilitated by technology or by instructional practice that makes effective use of technology" (Basak et al.:194). In this article the term *digital learning* is used with the meaning of a teaching method based on the use of digital tools to enable students to learn in different formats, whether it be face-to-face, distance learning (asynchronous or synchronous) or blended learning.<sup>2</sup> Therefore, *digital learning* is regarded not in a simplistic manner, considering it a tool employed in digitizing educational content but as a set of educational methods (such as the virtual classroom, serious games, the MOOC (Massive Open Online Courses), SPOC, mobile learning, social learning, and adaptive learning).<sup>3</sup> *Digital learning* encompasses any type of learning that uses technology in a broad sense, involving the use of digital platforms, tools, systems, and applications by learners. Examples include taking online courses, watching educational videos online or using digital devices and tools in a traditional face-to-face lesson in the classroom.

*E-learning* is one of the many pedagogical approaches of digital learning, which encompasses all online learning methods and techniques. To be more specific, *e-learning* is a fully virtual learning experience where students and teachers do not have face-to-face interaction.

In other words, *digital learning* is about a learning experience used across various contexts (corporate meetings with professionals, education) combining digital tools with learning formats (blended, online or in-person) while *e*-*learning* is associated with fully online learning experiences focusing solely on online tools in a remote environment, etc.<sup>4</sup>

As the focus of the current study is on university students, next this section will provide information on the approach to Higher Education put forward by European institutions. *The Future of Digital and Online Learning in Higher Education handbook 362* is a reflective document from 2022 edited by the European Commission that offers "a systematic overview of the current debate on how the impact of the pandemic has been valued for digital and online learning

<sup>&</sup>lt;sup>2</sup>What is digital learning? https://www.ipag.edu/en/blog/definition-digital-learning

<sup>&</sup>lt;sup>3</sup> Ibidem.

<sup>&</sup>lt;sup>4</sup> Ibidem.

practices and adaptations" (Humpl and Andersen 2022:5). The document's crucial point is the implementation of the Digital Education Action Plan (2021-2027) that has the following requirements:

- "Digital and online learning needs accessible digital technology. It involves the development of a high-performance digital education ecosystem in the EU (European Union) through supporting the improvement and expansion of digital infrastructure, connectivity, and equipment" (European Commission:2021a).
- "Digital and online learning needs digital skills and competences. This part aims to launch a framework of practical guidelines on how to implement effective and inclusive distance, online and blended learning" (European Commission:2021a). It focuses on the development of digital education as part of teachers' professional development, including initial teacher education. Educators need to learn how to tailor digital technology to specific subjects, goals, and activities.
- "Digital and online learning needs a digital learning culture: a key factor for sustainability is the development of a digital learning culture that requires the cultivation of new forms of participation. Therefore, students, educators, and administrators need to work together to examine the emerging challenges and to support implemented changes due to digitalization." (Carolan et al.:2020).
- "Digital and online learning needs financial support: to develop and deliver high-quality online courses regularly is not necessarily cheaper than face-to-face courses; it requires faculty members to be trained in online teaching. And they need to spend sufficient upfront time to design and develop online courses in collaboration with a team of instructional designers, production specialists, multimedia specialists, and other support staff" (Ortagus:2020).

In the year 2020 Babeş-Bolyai University, the host of the current research, displayed a pro-active attitude towards digitalization by adopting a strategy that aimed to make a step-by-step transition to a digital future.

However, there was a discrepancy between the intention towards digitalization at an institutional level and the readiness of the educational environment. An article based on the results of an in-house questionnaire (Felea: 2020) describes the following situation: out of the 22 professors that took part to the study (all of them with at least 15 years of experience in teaching undergraduate students), most participants (68.2%) reported medium ability in using digital technology before the pandemic (pg.19). The institutional response to the crisis

was perceived as insufficient at macro-level by most participants who felt abandoned and emphasized the lack of preparedness in terms of decision-making and management/coordination, lack of infrastructure and support for teacher training (pg.21). However, the SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis described in the second part of the article reveals a fair future of online pedagogy: in terms of strengths all participants agreed that developing new competences for teaching in the 21<sup>st</sup> century, experimenting with new methods, and adapting to online teaching are important and very important (pg.22) whereas in relation to opportunities, ranking high in participants' options for important and very important were flexibility and diversity of teaching strategies and developing alternative formats for teaching/ delivering and assessing students (86-88%). Next on the list of opportunities appreciated by a large majority of participants was collaboration with other teachers/ colleagues and building a community of practice (77%) (pg. 24).

Lack of training in teaching digital lessons sometimes resulted in teacher-centered lessons that had little in common with 21st century pedagogy (Pozo et al.:2021). However, the study reveals a connection between the earlier use of ICT (Information and Communication Technologies) with its better use during the pandemic.

Nemes (2001) reported on a small-scale survey completed by 56 undergraduate students about some of the challenges and affordances of online learning as perceived by students (pg. 103). The results show that most students appreciated the flexibility offered by online classes in terms of timetable. They expressed preference for shorter lessons combined with a reasonable load of asynchronous tasks (pg.115). Moreover, students expressed their preference towards project work including it on the list with assessment techniques used in the end of term exam. The results also show that efficiency in teaching is associated with prompt feedback from the teacher and incorporation of a wide variety of different digital materials and apps in the lesson (pg. 115). The problems mentioned by the survey takers are all connected to technical difficulties related to the internet connection or technical devices (pg.114).

The same type of problems is described in a study from 2020 conducted by Agung et al. that concludes "most English students are not ready for this rapid shift in terms of teaching and learning style. Several reasons were identified, and they can be categorized into three factors: the first is availability and sustainability of internet connection, the second is accessibility of teaching media, and the last is compatibility of tools to access the media." (2020:234).

### **RESEARCH METHOD**

The current article is based on the results of small-scale research conducted as a case study. The following is a description of its method and design.

- Research question: Do post pandemic undergraduate students acknowledge the benefits of digital learning? Is e-learning currently a reasonable choice for them?
- Case choice: The focus of the case is a group of first-year students in the Faculty of Law at Babes-Bolyai University, Cluj-Napoca, Romania. In 2020, Babeş-Bolyai University embraced digitalization by implementing a progressive strategy to transition towards a digital future. In October 2022, BBU accessed EU funding from the Recovery and Resilience Facility program available for expanding broadband and high-speed internet access for educational institutions in EU member states. The project is scheduled for execution from September 2022 to December 2025. Subsequently, the university showed keen interest in research and initiatives concentrating on artificial intelligence, with a recent emphasis on Intelligence for Connected Industries.
- Type of case study: It is designed as an exploratory case study, trying to get a grasp of the attitude of a specific group of undergraduate students towards digital and online learning two years after returning to classroom.
- Scope and boundaries: The scope is to measure the approval rate for employing digital learning and the degree of willingness to further employ online learning. The boundaries are related to the size of the group, the specific course they take, and the time span.
- Data collection method: there are three data collection tools employed, one questionnaire that aimed to gather quantitative data that measure their opinion on the researched topics, an interview with predetermined questions to understand students' attitude as expressed in the questionnaire, and teacher conducted classroom observations to record the efficiency of employing digital tools in the lesson.
- Data collection plan: The case study covered two months from the first semester of the academic year 2023-2024 (from October 16 to December 15). The teacher conducted classroom observations regularly. The questionnaire was given in October, the first month of the study, in a pen-and-paper format. The interview took place in the first two weeks of November 2023. All students that took part in the study agreed to do so voluntarily.

- Rigor of the study is achieved by triangulation, i.e., using multiple data sources (survey, interview, classroom observation)
- Data analysis approach combines qualitative analysis of interviews with quantitative analysis of surveys.

# Participants

The study included forty participants. All of them were first year undergraduate students at the Faculty of Law, Babes-Bolyai University from which 30 were females and 10 were males, the age range was 19-21. All participants were informed about the study and assured that their input and comments would remain anonymous. All the respondents were enrolled in an ESAP (English for Specific Academic Purposes) course that, according to the Language policy promoted by Babes-Bolyai University<sup>5</sup>, was meant to prepare them to conduct research in their specialized area and communicate with international members of the same professional community.

There are two limitations of the study that derive from the characteristic of the population sample: one is the major in Law that all the undergraduate student responders have. The other is caused by the size of the group of respondents. Forty students are a small number compared to the total number of undergraduate students majoring in Law. Thus, data cannot be generalized.

# Data collection tools

The questionnaire given was written in Romanian (as this was the respondents' mother tongue) to avoid a lack of answers due to a low level of English. Students completed it anonymously, and each student could fill it in only once. Before completion, students were fully informed about the study's aim and agreed to take part voluntarily. All questions were mandatory, and no exclusion criteria were set. The questionnaire had four questions requiring yes or no answers.

Classroom observation was performed by the teacher throughout the research and was based on an observation sheet for teacher's use and a Likert scale form for students' use. The aim for designing this research instrument was to assess various aspects of the lesson: the impact of student engagement with digital learning, the alignment of activities involving digital tools with Legal English syllabus' aims and relevance of using digital learning in Legal English classes. (Figure 1).

<sup>&</sup>lt;sup>5</sup> https://senat.ubbcluj.ro/wp-content/uploads/2013/10/Politica-lingvistica-UBB.pdf

1. Lesson information:
class topic
duration of observation
lesson aims
digital tools used
2. <u>Observation</u>
Student Engagement: level of student interaction with digital tools
Types of tasks/activities using digital tools
Content integration: allignment of activities involving digital tools with Legal English syllabus' objectives and lesson aims
relevance of digital tools to Legal English learning
Technical competence: technical competence in operating digital tools
technical challenges faced and overcome
3. <u>Reflection</u>
Effectiveness of digital tools Integration in Achieving Learning Objectives
Student Engagement and Participation Levels
Areas for Improvement

Figure 1. The structure of the class observation protocol

The teacher collected the data provided by the observation sheet. Throughout the period of the study there were three types of activities performed in the classroom that were seen by the teacher using the protocol:

a) Listening tasks. Students were asked to watch and listen to some video clips. The videos were posted using Nearpod, an educational App that allows the teacher to design tasks embedded in the video.

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- b) Vocabulary tasks. Students were asked to do individual tasks created on Wordwall, an educational App that offers creative vocabulary practice.
- c) Tests. Students were asked to take concise review tests designed and shared on MS Teams.

The teacher offered feedback on task achievement at the end of each activity. Part of the feedback, students were asked to fill in a short form with one question (Figure 2). The third stage of the lesson observation protocol is the teacher's reflection on the effectiveness of digital tools in achieving learning goals and student participation.

On a scale from 1 to 3 how would you rate your degree of satisfaction in using
digital tools to complete the task?
1. Very satisfied
2. Quite satisfied
3. Not satisfied

Figure 2. Respondents' level of satisfaction in using digital tools for task completion

The interview taken in the first two weeks of November 2023 consisted of asking all the subjects in the study the same three questions and recording their answers. As in the case of the questionnaires the language of communication was Romanian. All the students were informed that their answers were recorded, and they agreed beforehand.

### **RESEARCH RESULTS**

This section describes the results provided by the three research tools: the questionnaire, the interview, and the observation protocol.

The questionnaire is made up of four questions that can be grouped according to their purpose in the following way:

• Two questions have the aim to check respondents' level of familiarity with digital learning, and to reveal their earlier experience (if any) in using it (Table 1, 2);

- One question wanted to show respondents' opinion towards the use of digital learning in education (Table 3);
- One question aimed to provide the respondents' current opinion towards e-learning (Table 4).

The pre-coded answers (yes or no) within closed questions were analyzed in a quantitative manner using the functions provided by Google forms.

**Table 1.** The rating of the degree to which respondents were familiar with the concept of digital learning

Are you familiar with the concept of using digital learning?	n (%)
Yes	40 (100%)
No	-

**Table 2**. Rating of the earlier use of digital learning

Have you previously used digital learning?	n (%)
Yes	40 (100%)
No	-

Table 3. The rating of respondents' opinion towards the use of digital learning

Do you think digital learning is effective?	n (%)
Yes	40 (100%)
No	-

The results from this set of questions show that the unanimity of participants corresponding to a majority of 100% were already familiarized with the concept of digital learning in education. These figures are logically correlated with the results in Table 2. All the participants in the study had previously used digital learning. Consequently, the results in Table 3 provide a sign of the number of subjects in the study that agree to the use of digital learning: forty, corresponding to 100%. In conclusion, the figures between Table 1,2 and 3 are aligned.

In the case of question number four, the results clearly show that the number of students who felt positive towards using e-learning is quite low (12%). An explanation for this situation is provided in the interview that went with the questionnaire.

In your opinion, should e-learning be used in your education?	n (%)
Yes	5 (12%)
No	35 (88%)

Table 4. Indication of respondents' current opinion towards e-learning

The interview's purpose was to collect more information about the results revealed in the questionnaire. Each interviewee answered three openended questions in Romanian in a ten-minute session. One question wanted to find the explanation for respondents' current opinion about the use of digital learning in education as resulted from the questionnaire. The second question is related to respondents' attitude towards e-learning and to understand the reason behind the small number of students that approve it. The third question was aimed to find out the most appreciated elements of online learning. Some of their answers are provided here. They are written down word-for-word, and our translation is provided in footnotes.

To the first question "why digital learning should be used in education?" some of the answers were<sup>6</sup>:

[deoarece tehnologia face parte din viața noastră de zi cu zi si ar fi păcat sa nu o folosim in educație]

[instrumentele digitale facilitează învățarea deoarece ajuta la înțelegerea mai buna a lecției]

[lecțiile care conțin elemente de digitalizare au numeroase beneficii: sunt mai interesante, mai interactive, studenții sunt concentrați pe ceea ce învață si nu simt nevoia sa utilizeze telefoanele in alte scopuri]

[deoarece platformele educaționale, de exemplu, ajuta la o mai buna organizare a materialelor într-un singur loc]

<sup>&</sup>lt;sup>6</sup> [because technology is part of our everyday life, and it should be a waste not to use it]; [digital tools help learning because they facilitate a better understanding of the lesson]; [the lessons that use digital tools are interesting, interactive, students are more focused and are not distracted by their mobile phones]; [because the educational platforms, for instance, provide a better management of learning materials].

To the second question "is e-learning a realistic educational choice now? Some of the answers were<sup>7</sup>:

[personal cred ca învățarea față in față este mult mai eficienta deoarece in clasa suntem mult mai activi iar profesorul ne poate ghida mai ușor activitățile]

[la predarea față in față profesorul poate alterna mai ușor activitățile] [consider ca predarea online este utila in anumite situații când întâlnirile față in față nu sunt posibile]

[predarea online nu este o opțiune buna deoarece studenții nu sunt atenți 100%]

[nu o consider o opțiune eficienta deoarece conexiunea umana pe care o oferă predarea fața in față este foarte importanta].

To the third question "mention some of the elements from online teaching that you consider as useful "some of the answers were<sup>8</sup>:

[diferitele platforme educaționale], [testarea online], [aplicațiile folosite] [prezentările online].

The classroom observation protocol was designed to record valuable information on students' ease of using digital tools while doing different tasks, on student collaboration and interaction while using those tools, and on the relevance of using digital learning in Legal English. The information provided by the teacher's observation sheet throughout the study points towards a large familiarization and ease in employing digital tools in performing different tasks. Pair work encouraged collaboration offering support for those students who were hesitant or unsure how to use it. The feedback stage at the end of a task helped the students to understand better the aim of employing digital tools and their benefits. The short feedback forms filled in at the end of every activity that embedded digital tools offered the ranking of the three types of tasks included in the study: vocabulary exercises came as the first choice, listening activities the second, and tests took the last place in their preferences.

<sup>7 [</sup>I think that in-person teaching is more efficient because we are more active in the classroom and the teacher can organize the activities better]; [the teacher can use a wider range of activities while instructing in-person]; [online teaching is useful in those situations when inperson meetings are not possible]; [online teaching is not an efficient teaching modality because students are not 100% involved, they are distracted by different things]; [I don't think it's a realistic option because the human connection provided by in-person teaching is very important].

<sup>&</sup>lt;sup>8</sup> [the use of different educational platforms], [online tests], [the Apps], [online presentations].

#### **DISCUSSION OF RESULTS**

The aim of this study is to answer the following research questions: *Do post pandemic undergraduate students acknowledge the benefits of digital learning? Is e-learning currently a reasonable choice for them?* 

To achieve its aim, the study focuses on a specific case at the Faculty of Law, Babes-Bolyai University in Cluj-Napoca. According to the University's Language policy, students undertaking legal studies must attend an ESAP course, English for Legal Purposes that is supposed to help them conduct research in their specialized area and communicate with international members of the same professional community. To achieve this, the course focuses on both carrier content and real content by providing law-related context to equip students with relevant knowledge and understanding of the law in the English legal system and, at the same time, developing language skills. Therefore, in this case legal English is the carrier content while the four language skills are the real content.

The information for the study was gathered from three sources that completed one another to offer a reliable picture. The discussion of the results should begin with revealing the strategy behind data collection. The first questionnaire and the interview provided information on the students' feelings and opinions on using digital learning. The results of the questionnaire show that all respondents were familiarized with the use of digital tools learning in education (100%). The explanation for this situation lies in the fact that they were in high school during the pandemic and had all their courses online. Elearning in their case involved the use of educational platforms combined with other educational Apps. Moreover, they unanimously approved their use. The reason is explained by the answers to one of the questions in the interview that reveals the fact they enjoyed using them and considered them as a natural part of the learning process. Summarizing these results, one might conclude that all the students in the research were familiar with the idea of using digital learning and all of them had tried it. They give credit to this type of instruction because it offers an interactive environment, instant access to a large variety of learning resources. and information. In addition, lessons are more interesting and motivating because the pace is changed and activities are more varied, teaching is more entertaining (as students are involved in activities in which they watch videos or do pair work with Bing copilot). Unexpectedly, digital tools help students to focus more on the lesson, being less distracted by their mobiles.

The information from the class observation protocol helped to understand how effective digital tools integration is in achieving learning goals. It also revealed the level of student participation and engagement in performing class tasks using digital tools. The observation sheets recorded the gradual progress students made in using different Apps and cooperating to work on different tasks. Collaboration and digital tools helped students to finish the task in time, to talk in the target language while working and to apply peer correction where necessary.

To sum up, the answer to the first research question is the following: students are fully aware of the benefits provided by digital learning and are willing to keep using it as a natural extension of everyday life.

However, the situation is different in case of the second question. Elearning is not seen as an option by 35 respondents, standing for 88 %. The most common reasons offered for this choice are the following: lack of focus, distraction, lack of social relations. E-learning is more seen as an alternative for unexpected situations, a reliable "plan B" in case in-person meetings are not possible for several reasons. The most appreciated elements of online teaching are the educational platforms (MS Teams, Google classroom or Moodle) which, in the research participants' opinion offer the opportunity to have easy and permanent access to the information taught in the classroom; this way materials are better organized offering an excellent opportunity to keep updated with the learning process.

These findings contrast with the results of an earlier study performed two years before on a similar group of first-year undergraduate law students from UBB whose attitude was favorable to online education, 59.5% of them considering that it was quite important for universities to include online study programs in their offer (Bretan:2022). The same trend was noticed in a study performed on ESP (English for Specific Purposes) students from Romania enrolled at the Faculty of Natural and Agricultural Sciences from "Ovidius" University of Constanta (Chirobocea-Tudor:2021). The results showed that 52% of the respondents were not looking forward to returning to the regular in-person format. A different attitude is described in a study performed in April 2022 on students from different universities in Greece after the return to face-to-face classes (Nikolopoulou:2022). According to those results only 2 out of 24 respondents showed preference for online education while most respondents were in favor of face-to-face and blended instruction.

Therefore, the answer to the second research question is the following: two years after returning to classroom and to in-person instruction students are not as enthusiastic as they were about e-learning. This might be a consequence of the fact that they rediscovered the benefits of being part of a learning community that puts emphasis on social interaction and direct communication.

#### CONCLUSION

The aim of this study is to offer an updated view on the state of digital and e-learning in a post-pandemic era by focusing on a case study performed at Babeş-Bolyai University from Cluj-Napoca, Romania. Despite its reduced scale the research wants to add another piece of information to the broader topic of digital and online learning by providing relevant data for a local student population.

The paper examines the opinion that university students have towards digital learning to point professors towards efficient teaching strategies. One suggestion derived from the results of the study could be to fully maximize the potential of digital aids and guide students to complement classical instruction with the digital one. Moreover, the information revealed by the study shows that students are already part of a post-pandemic teaching paradigm that incorporates digital learning in lessons in which in-person activities are potentiated in their outcome by digital tools.

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