



## Distance Learning Development in COVID-19 Context



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### Abstract

The purpose of the article is to evaluate the practice and experience in the development of distance learning forms. Methodology. This article used secondary data from the UK Student Survey (Office of National Statistic COVID-19 Insights Survey (SCIS) during May 4-12 and November 19-29, 2021, to assess trends in the impact of the pandemic on their success. Results. The study found that limitations in higher education due to the spread of the coronavirus have driven the need for online education. In the UK, the most common education form was self-study or distance learning with a lecturer. Its prevalence has decreased as restrictions continue due to the online learning forms development (from 14% to 55%). With the developments, the number of students wishing to continue learning may be related to the adaptation to the new educational environment. In the UK, the combination of different distance learning methods is also changing, and the availability of online materials is increasing. The reduction in the amount of students' group work, the number of pre-recorded lectures or content, and the number of scheduled online classes from 76% to 40% remains negative.

### Keywords

COVID-19;  
distance education;  
distance learning;  
higher education;  
mental health;  
online education;

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## 1 Introduction

The Coronavirus (SARS-CoV-2) pandemic required significant changes in higher education organizations, new strategies, and teaching methods to ensure student achievements. Distance or online learning is becoming the norm in the new educational environment (Lytvyn et al., 2021). Higher education institutions are addressing the challenges of an active transition to a digital learning environment and a renewed digital infrastructure (Schneider & Council, 2021). The use of digital tools in education is increasing significantly during the crisis (Goudeau et al., 2021). According to UNESCO, unprecedented disruptions in the educational provision due to the COVID-19 have affected more than 220 million students in higher education worldwide (2021).

The rapid digitalization challenges to higher education were turned into opportunities. The pandemic's impact on higher education systems must be assessed in terms of accessibility, equity, quality of learning and teaching, university functioning, national challenges, current issues, and strategic issues (Van Dinther et al., 2011; Mishra et al., 2020). Before the pandemic, the innovation rate of technology and tools in higher education in OECD countries was 49.9% (OECD, 2022). Consequently, during the pandemic, online education shares significantly increased (Armstrong et al., 2011; Harasim, 2000). Accordingly, the development of distance forms of specialists' training was ensured. The hybrid model has become a more widespread training practice. This article aims to evaluate the practice and experience in the development of distance forms of education in the context of the COVID-19 spread (Gilat & Cole, 2020; Widana et al., 2021).

### *Literature review*

Studies of psychological well-being found varying anxiety levels among students due to the spread of coronavirus disease, highlighting a lack of commitment to distance learning due to the professional training and learning difficulties of clinical material (Peloso et al., 2020). Lack of direct interaction also negatively impacted the desire to study remotely (Verawardina et al., 2020; Petronzi & Petronzi, 2020).

The literature also suggests that feelings of efficacy and satisfaction contribute to students' commitment to distance learning methods (Cicha et al., 2021; Markova et al., 2017). For students to adopt distance learning models, it is important to ensure that technology is easy to use and should be useful in online training. In doing so, a sense of satisfaction contributes to student self-efficacy (Rizun & Strzelecki, 2020).

Separate research issues are basic skills challenges; digital challenges due to the availability of technology; teaching and learning challenges; strategic and managerial challenges for the university during a pandemic (Mouchantaf, 2020; Irfan et al., 2020; Arora & Srinivasan, 2020; Ramírez-Hurtado et al., 2021; Cicha et al., 2021). HEIs technological readiness, quality of information presentation, educator and student support, HEIs institutional readiness, and computer literacy define some of the most significant distance education components in a pandemic environment (Joaquin et al., 2020; Arshad et al., 2020; Blankenberger & Williams, 2020; Paudel, 2021; Shahzad et al., 2021).

Consequently, on the ICT accessibility issues for distance learning provision, Agormedah et al. (2020), found a positive response from students to online learning based on UCC Moodle, Alison, and Google Classroom platforms and a desire to use social networking platforms. However, researchers found negative reactions to online learning for lack of sufficient preparation, lack of formal orientation to learning materials (Diachenko et al., 2021). Bilgic & Tuzun (2020), found the following problems of distance education in Turkey: (1) problems of program start-up processes, (2) legislative problems. According to the UNESCO (2021) report, the pandemic has affected higher education systems in the following dimensions:

- Access: the spread of the pandemic through COVID-19 affected student enrollment, especially those whose enrollment depended on income levels and the HEIs location. High-income countries (Europe, North America) are more likely to overcome the negative effects of enrollment through government support, increasing domestic enrolment;

- International mobility: significantly reduced international due to reduced flows of international students, despite virtual mobility, which partially offset the performance;
- University staff: the impact of the coronavirus on HEIs staff was limited, but employees needed increasing digital literacy and support;
- Research activities disruption: as a result of COVID-19, teaching research activities were suspended and canceled;
- Increased inequality: increased inequality in higher education due to escalating financial issues;
- University operations: reduced service levels and campus closures due to the spread of the virus;
- National challenges: the need to adapt, particularly digitally, to new learning environments, new regimes, strategies, models, and teaching methods, which has been a major challenge for faculty and students;
- The transition from higher education to employment: The decline in employment opportunities made it difficult for students;
- National priorities: priorities shifted strategically across countries because of the need to develop digital infrastructure.

## 2 Materials and Methods

This study uses secondary data from the UK Student Survey (Office of National Statistic COVID-19 Insights Survey (SCIS) to assess:

- Pandemic impact tendencies on their success;
- The academic situation (distance education development) and student achievements compared to the 2020-2021 academic year.

1,157 students from different UK HEIs took part in the survey. The survey was conducted between May 4-12 and November 19-29, 2021, and provides an analysis of the distance education forms, the possibility of continuing education, the reasons for students for not continuing education, the acceptability of distance education methods by students (Rovai, 2003; Boling et al., 2012; Kadir et al., 2021).

## 3 Results and Discussions

### 3.1 Results

Synchronous and asynchronous learning styles are being developed in major universities around the world during the Coronavirus spread time. At the HEIs level, the leadership provides flexible, inclusive, personalized learning through a list of learning technologies offered to faculty according to the class type (lecture, seminar, group, and individual work). Students have the option of synchronous or asynchronous viewing of learning materials. Teachers are given the opportunity, thanks to a list of technologies, to quickly generate electronic quality material.

The development of distance education depended on the restrictions imposed by the governments of different countries on the operation of HEIs (Figure 1). Countries reacted differently to the virus spread, but in general, HEIs were closed within three months, which defined a new training environment and forced a switch to distance learning methods (Howell et al., 2004; Harper et al., 2004). The average HEIs closing time was 103 days with a significant deviation in different countries - 50.4 days. The maximum closing time was in Slovenia - 216 days, and the minimum in Estonia - 39 days. Also well-known is the distance learning period implemented in Austria - 198 days, Ireland - 192 days, Belgium - 191 days, Spain - 168 days, Latvia - 167 days. Partial HEIs closure was implemented in the Czech Republic - 112 days, France - 98 days, Italy - 42.6 days, Lithuania - 35 days, the Netherlands - 78 days, Poland - 98 days, Portugal - 112 days, Slovenia - 8 days.

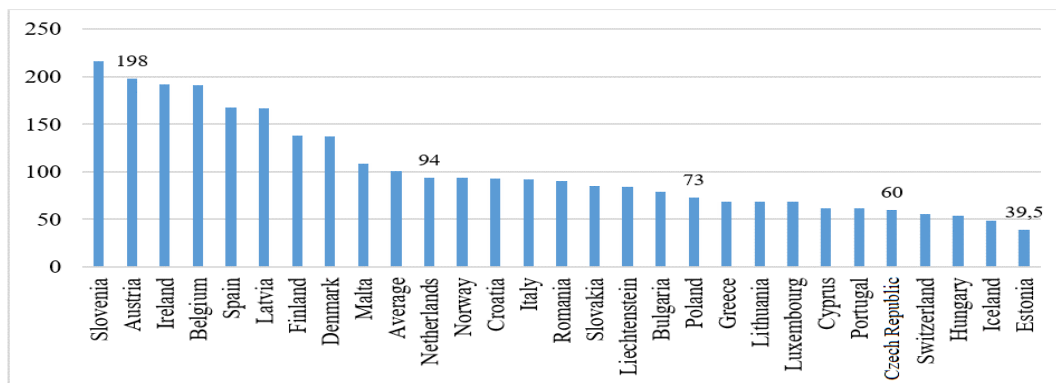


Figure 1. Closure of educational institutions (higher education) in EU during a pandemic  
Source: European Center for Disease Prevention. Data on country response measures to COVID-19

During the pandemic, the most common study form was online self-study or online learning with a tutor or lecturer, as reported by 55% of students. In second place was desk-based learning (self-study or online learning with a tutor or lecturer), cited by 33% of UK students surveyed. Classroom-based learning was less common, cited by only 5% of students, such as learning in lecture halls, classrooms, or on-campus labs. 7% of students indicated the prevalence of school, hospital, office, or factory-based locations. Significant changes in the development of distance education during the pandemic should also be noted. While between May 4-12, 2021, 77% of students reported the prevalence of online learning or online with a tutor or lecturer, only 14% reported online learning, between November 19-29, 2021, the prevalence of online learning rose to 55%.

Overall, 92% of students were most likely to continue their studies, 5% were undecided, and 2% were likely not to continue their studies under these conditions (Figure 2). At the same time, in the early stage of the virus, the number of those willing to continue studying was lower - 88%, while the number of those unwilling to continue learning was higher (8%). The most important reasons for not wanting to continue were: financial difficulties (40% of respondents who answered "unlikely" or "extremely unlikely"), physical or mental illness (32%), online learning (28%), limited social activities (25%), university life not what I expected (26%), graduation or already graduated (28%), responsibilities outside of studies (24%), support available from university (26%).

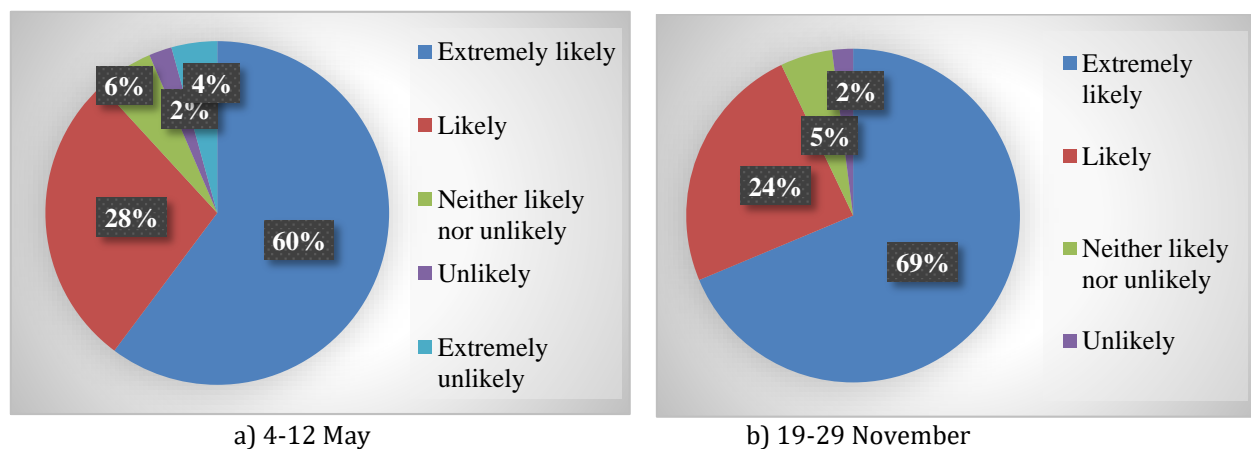


Figure 2. How likely or unlikely are you to continue your studies this academic year?  
Source: Office of National Statistic. COVID-19 Insights Survey (SCIS)

The prevalence and frequency of various distance learning methods usage have also changed over time. For example, there has been a decrease in pre-defined activities (from 34% to 30%), an increase in access to learning materials (from 62% to 66%), a decrease in group work (from 29% to 18%), a decrease in distance

exams (from 26% to 16%), a decrease in pre-recorded lectures or content (from 51% to 31%), and a decrease in scheduled online classes from 76% to 40%.

Table 1

To what extent, each of the following distance learning methods has been adopted by your University since the start of the Autumn 2021 term? %

Method	May 4-12		November 19-29	
	Always or most of the time	No time	Always or most of the time	No time
Pre-set activities (for example forum posts) by a teacher with marking and feedback	34%		30%	70%
Making materials available for students to access through a website or email	62%		66%	34%
Online group working	29%		18%	82%
24-hour remote exams	26%		16%	84%
Pre-recorded lectures or other content	51%		31%	69%
Scheduled live online lessons or lectures	76%		40%	60%

Source: Office of National Statistic. COVID-19 Insights Survey (SCIS)

Thus, the change in distance learning methods may be primarily due to the removal or relaxation of restrictions during the pandemic or the digitalization of learning materials (Figure 3). Students interviewed on May 4-12 indicated a significant or strong impact of the pandemic on success: the overall proportion was 59%, which is more than compared to the period November 19-29 (50%).

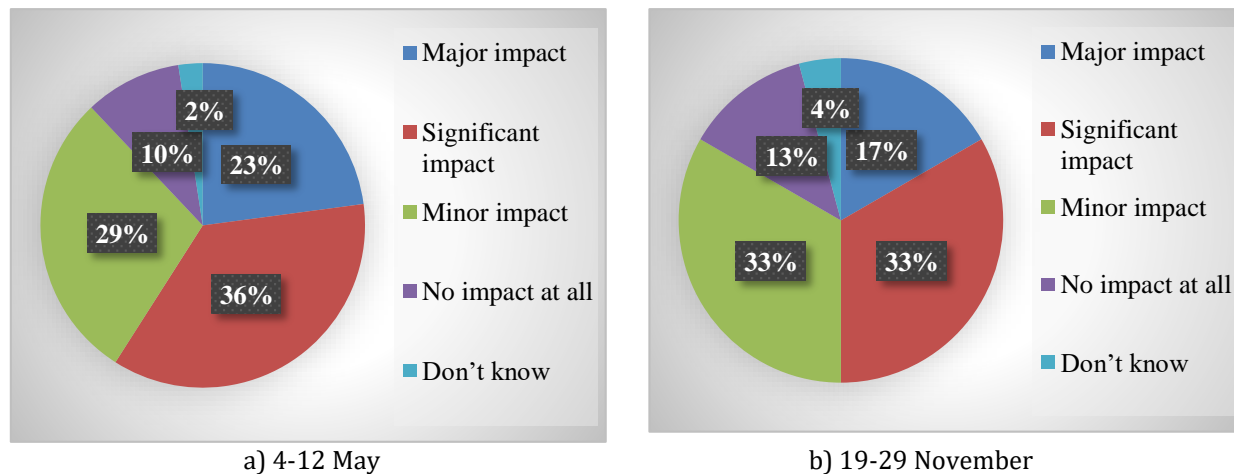


Figure 3. How do you feel your academic performance has been impacted since the outbreak of the coronavirus (COVID-19) pandemic?

Source: Office of National Statistic. COVID-19 Insights Survey (SCIS)

A small impact on the performance during the pandemic was reported by 29% during May 4-12 and 33% during November 19-29. No impact was reported by 10% during May 4-12 and 13% during November 19-29.

### 3.2 Discussions

In all academic discussions, only a few studies have evaluated students' perceptions or feelings about new distance learning methods (McRoy et al., 2020). Peloso et al. (2020), conducted a survey to assess health-related anxiety among tertiary. Students indicated the presence of anxiety due to the spread of the virus. As in

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this study, it was found that the students' majority agreed with the possibility of continuing their education through distance learning. However, there was found a high level of dissatisfaction with online education. In addition, students were concerned about the difficulty of learning clinical material and professional training and the negative impact of the pandemic on learning outcomes (70%). This study found a reduction in the pandemic negative impact level on academic performance: as measured by students from 59% to 50%.

An article on the assessment of distance learning by students in Poland revealed the importance of self-efficacy, the satisfaction of using technology, the usefulness obtained, and the ease of use were found to be predictors of educational effectiveness during the pandemic (Cicha et al., 2021; Halapiry et al., 2020). The comfort of distance education by not having to travel to HEIs ensured student satisfaction.

Agormedah et al. (2020), found low student knowledge levels about online platforms and, therefore, negative student perceptions of the platforms that prevented the transition to emergency distance education during the COVID-19 pandemic. At the same time, most HEIs ensured the transition from traditional to online courses. It may be the reason for the decline in academic performance or the reason why students noted a significant impact of the pandemic on their academic performance in this study (Graham et al., 2013).

The spread of the pandemic indicates that it is not possible to replace suddenly traditional learning strategies with online classes. Although online learning practices are significantly prevalent, many HEIs and teachers have not been prepared for the full transition (Peloso et al., 2020). In particular, this is due to the need to set up and organize distance learning processes and access to online platforms for classes. Despite the lack of plans for a rapid transition to online platforms, such platforms were instantly updated to provide distance learning, complex problems, and e-learning procedure factors during this epidemic.

## 4 Conclusion

The study found that the limitations of higher education due to the spread of the coronavirus have driven the need for online education. In the UK, the most common learning form was self-study or distance learning with a lecturer/teacher, the prevalence of which has decreased with the continuation of the restrictions due to the development of forms of online learning (from 14% to 55%). With the development of events, the number of students who want to continue learning in crisis, which may be related to the adaptation to the new educational environment, is increasing. Financial difficulties and physical or mental illness were the most common problems that led to a reluctance to study further. In the UK, there is also a changing mix of different dissident learning methods, and the availability of online materials is on the rise. Negatively, the amount of student group work, the number of pre-recorded lectures or content, and the amount in scheduled online classes are decreasing from 76% to 40%. Over time, the crisis impact level on success decreases, which is associated with the adaptation of students to the new learning environment. Further research is advisable to focus on assessing and analyzing the impact of the pandemic on the mental health of students, in particular, its relationship with the desire to learn further and academic performance.

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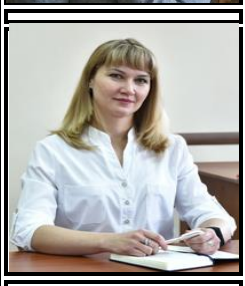
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