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SURVEY REPORT

CHALLENGES AND OPPORTUNITIES PRESENTED BY THE CURRENT COVID-19 EMERGENCY FOR HIGHER EDUCATION INSTITUTIONS AND STAKEHOLDERS

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DISCLAIMER

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INTRODUCTION

The Coronavirus (COVID-19) pandemic and the closure of schools and universities in Europe highlights the need to reassess our assumptions about the transformation potential of digital education. Increasing digitisation in education and enabling digital learning for all are standard, core missions of higher education and key factors for the future knowledge society. Yet, the pandemic has shown that few institutions have really worked out how emerging technologies can contribute to ‘good education’ at a time when most institutions have had to migrate to teaching online.

To collect more responses and gain a better understanding on how education institutions are able to manage the continuity of higher education and to adapt education to the future, DEL4ALL aims to identify in this survey:

- major challenges facing schools and universities,
- main opportunities presented to education institutions,
- expected actions from authorities to guide the transformation in digital education,
- innovative and emerging technologies to support and enhance digital learning, and
- anticipations from stakeholders of permanent post-pandemic changes.

METHODOLOGY

Reflecting on the key actions of the European Commission, such as budgetary support, more regulation, and elaborated concepts for education infrastructure in a higher education context, DEL4ALL conducted several activities during the COVID-19 crisis. From the 2nd till 17th June 2020, DEL4ALL distributed an online survey with six open questions among digital education experts to summarise the digital learning challenges and opportunities during the COVID-19 emergency. A total of 13 respondents completed the questionnaire, and the results showed that the COVID-19 pandemic exposed structural weaknesses in our current higher education systems. Survey participants reported the lack of compatible teaching materials, non-existent infrastructure, and digital skills.

On 9th July 2020, DEL4ALL hosted an online workshop led by project partner 3CL, with the participation of 32 digital education experts and panel speakers to discuss the challenges of the education system as experienced during the COVID-19 pandemic. During the workshop, experts and participants agreed that the digital skills of teaching staff need to be upgraded to get the best from the available education technology. After the workshop, DEL4ALL conducted a second survey on the theme of “Challenges and opportunities presented by the current COVID-19 emergency for higher education institutions and stakeholders” to collect answers to these issues from learning communities from a multidisciplinary perspective (legal, organisational and technological) and different stakeholder domains (education, research, technology, and standardization). The findings of this second survey form the basis for this report.





RESULTS

DEL4ALL designed and ran the second online survey after the COVID-19 lockdown in Europe (16 July 2020 – 11 September 2020). The survey was sent to a group of more than 50 digital education experts associated with the DEL4ALL project and distributed via various proprietary and project partners' networks. A total of 30 respondents completed the survey. The quantitative survey consisted of four (4) demographic questions and five (5) multiple choice questions.

In the following sections the report presents the statistical analysis of the collected quantitative data. Free-text answers in the tables are in italics.

Respondents' demographics

Twenty-six (26) respondents answered the demographic questions: 17 males and 9 females between 35 and 65 years old, based in 10 different EU countries, Belize and United States of America, and most of the respondents are working as tertiary education lecturers (14) or researchers (9).

What is your background? (multiple responses possible)	Percent of cases	Responses
Lecturer - tertiary education (e.g. university/college/etc.)	46.67%	14
Researcher	30.00%	9
Employee of national/regional or local authority	16.67%	5
Education consultant	13.33%	4
<i>CIO</i>	6.7%	2
<i>Business education director in IT company</i>	3.3%	1
<i>Education Technology Executive</i>	3.3%	1
Teacher - early years education	3.3%	1
Teacher - secondary education	3.3%	1
<i>Technical specialist in an international organisation</i>	3.3%	1

TABLE 1 - BACKGROUND OF RESPONDENTS





Which three main challenges does the COVID-19 emergency present to higher education institutions?

More than a third of the respondents identified “ensuring high quality online education”, “teaching staff’s lack of experience with online education”, and “difficulty in engaging and interacting with students” as the three main challenges. For more than 26%, converting offline teaching into online teaching material is a main challenge. Six (6) respondents (20%) experienced extra workload when moving from offline to online teaching, and four (4) of these six respondents reported the challenge of ensuring high quality online education. Four (13.3%) survey participants referred to the lack of online teaching infrastructure in education institutions and two (6.7%) stated difficulties with the setup of appropriate infrastructure. Inflexible administrative processes inside the educational institution were highlighted by 10%. Four (4) respondents identified online examination and assessment as a significant challenge. Respondents that mentioned difficulty in engaging and interacting with students also identified extra workload; turning offline into online teaching material; a lack of online teaching infrastructure; or teaching staff’s lack of experience with online education. Survey participants also identified privacy issues.

Which three main challenges does the COVID-19 emergency present to higher education institutions? (multiple responses possible)	Percent of cases	Responses
Ensuring high quality online education	36.7%	11
Teaching staff's lack of experience with online education	36.7%	11
Difficulty in engaging and interacting with students	33.3%	10
Turning offline teaching material into online teaching material	26.7%	8
Health maintenance in face-to-face settings	23.3%	7
Extra workload for teaching staff	20.0%	6
Greater competition between higher education institutions to acquire/retain students	13.3%	4
Lack of online teaching infrastructure	13.3%	4
Inflexible administrative processes inside the institution	10.0%	3
Difficulties with setting up online teaching infrastructure	6.7%	2
Formative assessment	6.7%	2
Conducting online exams	3.3%	1
Difficulty justifying the cost/value proposition of higher education when conducted virtually	3.3%	1
Frustration on the side of teaching staff	3.3%	1
Maintaining a healthy work/personal life balance since the new flexibility makes it more common for supervision meetings to be scheduled at odd hours or to be postponed or for students to communicate with the educator throughout the day	3.3%	1
Privacy issues	3.3%	1
Problems to conduct online tests	3.3%	1
Standard	3.3%	1
Write new content adapted to people with digital skills who hope to learn in a different way	3.3%	1
Dealing with practical skills delivery and assessment through online means	3.3%	1
Online examination (fraud prevention)	3.3%	1

TABLE 2 - MAIN CHALLENGES PRESENTED TO HIGHER EDUCATION INSTITUTIONS





Which three main opportunities does the COVID-19 emergency present to higher education institutions?

Over 30% of respondents highlighted the need for improving the infrastructure of online teaching, while the same percentage (30%) of survey participants proposed increasing skills and competencies of staff, suggesting a possible correlation between the variables. The demand for speeding up policy changes within the institutions is supported by a third of respondents, who also associate such change as facilitating opportunities for lifelong learning. The COVID-19 emergency indicates the need to transform the formal education system by strengthening the relevance of technology in education, both acknowledged by 26.7% of respondents. Six (6) survey participants (20%) argued for better alignment between the education system and the needs of the future labour market and reaching a broad learning audience. 10% of respondents suggest that a focus on equity, diversity, universal learning design, and more student personalised learning opportunities will reap benefits. One (1) of each respondent (3.3%) stated that IT should not only be aligned, but be a fundamental part of the Higher Education Institutions (HEI) strategy, adding the need for improvement of online teaching, offering flexibility for students and a re-thinking of traveling guidelines.

Which three main opportunities does the COVID-19 emergency present to higher education institutions?	Percent of cases	Responses
Improvement of online teaching infrastructure	33.3%	10
Increasing staff's skills and competences	33.3%	10
Facilitating opportunities/options for life-long learning	30.0%	9
Speeding up policy changes within institutions	30.0%	9
Strengthening the relevance of technology in education	26.7%	8
Transformation of former education system	26.7%	8
Better alignment of education with the needs of the future labour market	20.0%	6
Reaching wider learning audiences	20.0%	6
More focus on diversity	10.0%	3
More student personalised learning opportunities	10.0%	3
Access and Universal Design for Learning	10.0%	3
Equity	10.0%	3
Improvement of online teaching	3.3%	1
<i>Let IT be part of the HEI strategy itself (not just aligned)</i>	3.3%	1
<i>Offering greater flexibility to students</i>	3.3%	1
<i>Re-thinking traveling guidelines</i>	3.3%	1

TABLE 3 - MAIN OPPORTUNITIES TO HIGHER EDUCATION INSTITUTIONS





Which three main actions do you expect from authorities (e.g., European Commission, local governments, education policy makers) to support education technology in a higher education context?

Budgetary support is the main expected action from the authorities, according to thirteen (13) responses (43,3%) of the respondents, followed by encouraging open debate about the future of education and assistance with capacity building and skills development for teaching staff, both identified by 40% of the survey participants. One of the main required outcomes of the DEL4ALL project, the sharing of best practices between higher education institutions, is considered to be essential by 30% of the respondents. Eight (8) participants (26.7%) recommended further support in research activities, and seven (7) respondents (23.3%) suggested facilitating cross-institution exchange and community building, as well as launching more regulations for digital education. Four (4) respondents (13.3%) highlighted the need for an established concept to improve teaching infrastructure. In addition, 3.3% of survey participants encouraged establishing an EU standard for online education, building a transversal vision for Lifelong learning (LLL), and Personal Learning Profile (PLP), as well as identifying and sharing governance frameworks. Moreover, 3.3% of respondents also advised connecting funding to the digitalisation of learning delivery and supporting higher education context with assessment and certification practices.

Which three main actions do you expect from authorities (e.g., European Commission, local governments, education policy makers) to support education technology in a higher education context?	Percent of cases	Responses
Provide budgetary support	43.3%	13
Encourage an open debate about the future of education	40.0%	12
Help with capacity building & skills development of teaching staff	40.0%	12
Facilitate best practice sharing	30.0%	9
Support research activities	26.7%	8
Facilitate cross-institution exchange & community building	23.3%	7
Launch more regulations supporting digital education	23.3%	7
Offer concepts for improving teaching infrastructure	13.3%	4
<i>Build a transversal vision for LLL and PLP (cross view between different DGs/align funding for EU projects/etc)</i>	3.3%	1
<i>Establishing a EU standard for online education</i>	3.3%	1
<i>Identifying and sharing a governance framework like COBIT adapted to HEI</i>	3.3%	1
<i>Assessment and certification practices</i>	3.3%	1
<i>Tie funding to digitalisation of delivery</i>	3.3%	1

TABLE 4 - MAIN ACTIONS EXPECTED FROM AUTHORITIES





Which emerging technologies (e.g., AI, AR, VR, blockchain, gaming, data analytics) can support digital learning in a higher education context? Please name the TOP 3 technologies.

More than half of the respondents (53.3%) identified virtual learning platforms as the most relevant support of digital learning in a higher education context. Conference tools, data analytics, and learning games are also beneficial to develop new learning environments based on more than 30% of the responses. Seven (7) survey participants (23.3%) are supporting the use of artificial intelligence and blockchain, while 16.7% and 13.3% of respondents encourage applications such as augmented- and virtual reality. Two (2) participants (6.7%) identified with the need for machine learning and virtual assistant applications in digital education. In addition to this, the use of social media platforms and various training programs such as apprenticeships, internships, and virtual traineeships are considered to be essential components of solutions dependent on emerging technologies, and selected by 3.3% of the survey participants.

Which emerging technologies (e.g., AI, AR, VR, blockchain, gaming, data analytics) can support digital learning in a higher education context? Please name the TOP 3 technologies.		
	Percent of cases	Responses
Virtual learning platforms	53.3%	16
Conference tools	36.7%	11
Data analytics	30.0%	9
Gaming	30.0%	9
Artificial intelligence	23.3%	7
Blockchain	23.3%	7
Augmented reality	16.7%	5
Virtual reality	13.3%	4
Machine Learning	6.7%	2
Virtual assistants	6.7%	2
<i>All of them + CX (Some for students/some for teachers/some for staff/some for management)</i>	3.3%	1
<i>Blockchain=Trust +Set of AR-VR-AI +VirtualLabs</i>	3.3%	1
Social media	3.3%	1
<i>Apprenticeships</i>	3.3%	1
<i>Internships</i>	3.3%	1
<i>Virtual traineeships</i>	3.3%	1

TABLE 5 - EMERGING TECHNOLOGIES IDENTIFIED AS THE MOST RELEVANT





Which permanent post-pandemic changes will there be to education? Please name the three main changes you anticipate.

The mix of online and offline learning methods deployed in blended learning was anticipated as the most permanent post-pandemic change by 66.7% of respondents, leading to more digitalised learning (50%), and to the digital skills development of educators (46.7%). Seven (7) survey participants supported co- and peer learning through virtual team spaces for teachers and learners and six (6) suggested more focus on credible digital certificates and the digital transformation of education as a whole. The increased use of Open Education Resources was identified by 13.3% of the respondents, while more personalised learning was suggested by 10.0% of the participants. Two (2) respondents suggested the replacement of “old” teaching and learning infrastructures, such as the traditional textbook and teacher directed memorisation and recitation techniques, and one (1) participant recommended more decentralisation.

Which permanent post-pandemic changes will there be to education? Please name the three main changes you anticipate.	Percent of cases	Answers
More blended learning (i.e. a mix of online & offline methods and media)	66.7%	20
Education will be more digitalised in the future	50.0%	15
Development of digital education skills	46.7%	14
More multidisciplinary collaboration (e.g. co- and peer learning through virtual team spaces for teachers and learners)	23.3%	7
More focus on trust and privacy of digital learning (e.g. through credible digital certificates)	20.0%	6
Transformation of education as a whole	20.0%	6
Increased use of Open Educational Resources	13.3%	4
More personalised learning	10.0%	3
Replacement of old teaching & learning infrastructures	6.7%	2
<i>More decentralisation</i>	3.3%	1

TABLE 6 - ANTICIPATED PERMANENT POST-PANDEMIC CHANGES





CONCLUSION

The survey was conducted among educators, researchers, stakeholders and technology providers to understand the challenges and opportunities they experience in digital learning during the COVID-19 emergency as well as the main actions expected to be taken by authorities to transform higher education.

The COVID-19 reality check reveals that online teaching infrastructure is available in many universities and schools, but the infrastructure of online teaching has to be improved; skills and competencies of teaching staff have to be increased; and policy changes within schools and universities to be developed and implemented. Many respondents asked for a digital enhanced learning guide that may clearly articulate concepts, standards, and best practices. Also, open educational resources, virtual learning platforms integrated with learning analytics, digital games, and artificial intelligence have been identified as key resources and technologies for digital learning in a higher education, whereby the future seems to be blended learning, the combination of traditional teaching and learning and digital learning. Moreover, the survey results indicate the major need for profound changes in higher education governance and funding models.

DEL4ALL will incorporate the results of this and future surveys in the development of policy recommendations and the research agenda on sustainable and viable learning technologies and environments.

