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THE BOOK

The objectives of distance learning in the post-pandemic period emerge as an approach that is not only tied to the qualification of a specific segment of citizens, those who do not have, or have not had, the possibility of participating in the face-to-face training options offered by HEIs, but also as an innovative methodology capable of establishing a more flexible approach to study programmes, ensuring the need to create approaches, structures, and methodologies that affirm the specificity of distance learning and increase the diversity of higher-education provision, aligned with the global needs of society.

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Diogo Casanova *et al.*
DISTANCE LEARNING

A3ES READINGS Nº19

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DISTANCE LEARNING IN HIGHER EDUCATION:
CHALLENGES FOR THE FUTURE

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LIST OF ACRONYMS AND ABBREVIATIONS

(acronyms and abbreviations used more than once throughout the text)

A3ES – Portuguese Agency for Assessment and Accreditation of Higher Education
AI – Artificial Intelligence
EAT – External Assessment Team
CNPD – National Commission for Data Protection
CPD – Continuing Professional Development
CU – Curricular Unit
DE – Distance Education
DL – Distance Learning
EADTU – European Association of Distance Teaching Universities
EAID – Early Alert Indicators Dashboard
ECTS – European Credit Transfer and Accumulation System
ED3 – Digital Distance Education based on data
EDEH – European Digital Education Hub
EHEA – European Higher Education Area
EMBED – European Maturity Model for Blended Education
ESG – European Standards and Guidelines, Standards and Guidelines for Quality Assurance in the European Higher Education Area
ENQA – European Network for Quality Assurance in Higher Education
GenAI – Generative Artificial Intelligence
eLinC – eLearning Innovation Center
EUI – European Universities Initiative
HEI – Higher Education Institution
HR – Human Resources
IaD – Internationalization at a Distance
IA – Internationalization Abroad
IH – Internationalization at Home
ICDE – International Council for Open and Distance Education
LLM – Large Language Model
LMS – Learning Management System
MOOC - Massive Open Online Courses
NCE – New Study Programmes (Novos Ciclos de Estudos)
OECD – Organisation for Economic Co-operation and Development
ODDE – Open, Distance, and Digital Education
OER – Open Educational Resources
OpenEU – The Open European University
OUUK - Open University UK
SDG – Sustainable Development Goals
STEM - Science, Technology, Engineering and Mathematics
TEF – Teaching Excellence Framework
UNED - Universidad Nacional de Educación a Distancia
UNESCO - United Nations Educational, Scientific and Cultural Organization
UOC – Universidad Oberta de Catalunya
VSM - Virtual Student Mobility

PREFACE

DISTANCE LEARNING, AN INSTRUMENT TO STRENGTHEN CITIZENS' QUALIFICATION

João Guerreiro[1]

The Bologna reform adopted an orientation that has proven essential to the renewal of the European higher education system: placing the student at the centre of the learning process. This approach aimed to revolutionize teaching and learning mechanisms, enabling higher education institutions (HEIs) to create the best conditions for students to participate fully and actively in educational processes. Initially a major challenge for students, this strategy was later broadened to include their involvement in scientific research activities developed by HEIs, as well as a wide range of initiatives fostering active engagement with society. This orientation required (and continues to require) HEIs to develop new processes to organise teaching and readjust curricula, always with the aim of responding more coherently to the Bologna reform and its challenges.

It is widely recognised that the evolution of higher education in recent decades made several adjustments urgently necessary. Access to this level of education expanded dramatically. In Portugal, for example, the number of students enrolled in higher education increased tenfold during the democratic period. The creation of new HEIs, particularly in the private sector, and the expansion of the polytechnic subsystem were both crucial in absorbing this growth. At the same time, this expansion demanded a reorganisation of institutional structures. The establishment of the Legal Framework for Higher Education Institutions (RJIES) in 2007 marked a milestone in this restructuring, a process that continues to evolve today.

The requirements of professional profiles have also changed, in line with societal developments. The higher education system has accommodated various reforms, always seeking to reconcile graduates' scientific, technical, and humanistic training with their integration into professional life. Among these reforms:

- The expansion of study programmes, mainly bachelor's degrees, now with mandatory professional internships included in curricula;
- The creation of a professionally oriented master's model, designed to promote lifelong learning and open exclusively to students with at least five years of prior professional experience;
- The introduction of Professional Higher Technical Courses (TeSP), integrated into higher education and featuring mixed curricula, with a strong component carried out in professional environments;
- The promotion of distance learning, with clear requirements defined for programmes offered under this modality;

1 President of the Management Board of the Agency for Assessment and Accreditation of Higher Education (A3ES).

- Finally, the broad recognition of the need to reform teaching methods by introducing innovative pedagogical practices and improving the preparation of teaching staff, so that teaching and learning could meet both the new operating conditions of HEIs and society's needs[2].

In the field of distance learning, analyses of its specific characteristics have multiplied in recent years. The publication of specific legislation[3] spurred HEIs to develop numerous proposals, further enriched by forums[4] dedicated to this modality. Responding to this momentum, HEIs launched a substantial number of training initiatives for teaching and technical staff, addressing specific requirements involved in organising distance learning.

A common objective runs through these initiatives: to make a decisive contribution to the qualification of a specific group of citizens — those who cannot (or could not) take part in the in-person training opportunities offered by HEIs. Various factors, including commuting distance, rigid academic schedules, and professional demands, often prevent participation in in-person classes. Distance learning therefore emerges as an effective alternative.

Its expansion, however, requires a set of initiatives that have become a central concern for the higher education system and mark a new chapter in the qualification strategies of HEIs. Teaching staff must receive specific training to adapt teaching content to this modality. Familiarity with the selected technological platform is also vital, with technical staff playing a fundamental role. Preparation also entails careful design of pedagogical materials that not only support learning in distance conditions but also spark active student engagement. Incorporating this modality into the overall training portfolio of HEIs strengthens their qualification strategies. Alongside these efforts, tutoring becomes crucial, reinforcing within HEIs a model of student support that must be implemented with growing commitment and quality.

It is also recognised that students who choose this modality, typically belong to groups with distinct characteristics. Accordingly, distance education requires specific adaptations in both pedagogical approaches and the design of supporting materials. Student support is again decisive, with tutoring expected to be more personalised and often more intensive than in face-to-face programmes. Assessment practices must likewise adhere to specific modalities to guarantee both the comparability of results and their overall credibility.

From the student's perspective, the advantages of this modality, particularly its asynchronicity, are clear. Flexibility and the ability to choose a timetable suited to individual study rhythms are perhaps its greatest strengths. The academic path can be individually planned and tailored to personal goals, allowing for faster or slower progression in acquiring new competencies, obtaining a diploma, or tackling particular subjects that strengthen professional skills.

Distance learning leads students along a path that combines greater autonomy with new demands. Autonomy, because they set their own pace, conditioned by the need

2 ALMEIDA, Leandro ***et al.*** (2022) – *Pedagogical Innovation in Higher Education. Scenarios and paths of transformation*, Lisbon, A3ES READINGS.

3 Decree-Law No. 133/2019, of 3 September.

4 A3ES (2022) – *The challenges of distance education in higher education*, Lisbon, A3ES EDITIONS.

to reinforce their knowledge and satisfy their curiosity in due time. New demands, because this choice entails limitations that can only be overcome by assuming greater individual responsibility.

In summary, distance learning is an educational component that can substantially broaden the universe of citizens benefiting from qualification mechanisms. It reaches population groups that, through traditional means, would face significant barriers in accessing knowledge and acquiring new skills. It is a mechanism that supports, through this mission, the lifelong learning strategy. Training for teaching and non-teaching staff, the installation of the most suitable technological platform, and the eagerness for knowledge demonstrated by students are indispensable components for the success of these processes.

With this in mind, the Management Board of A3ES considered it timely to prepare a volume that would bring together diverse reflections on distance learning, with contributions from both national and international experts. It is hoped that this volume will serve as a clarifying guide for the many teams in higher education institutions that dedicate themselves to organising, studying, promoting, and delivering knowledge areas that benefit from distance learning methodologies.

A final word of thanks goes to the editorial team[5] of this volume, for the dedication they placed in organising the texts and ensuring their coherence.

João Guerreiro

5 Diogo Casanova (Universidade Aberta), Rita Cadima (Instituto Politécnico de Leiria), Jorge Costa (ISCTE – IUL), Paula Peres (Instituto Politécnico do Porto), and Clara do Amaral (A3ES).

AUTHORS' NOTE

Distance learning (DL) in Portugal has been consolidated as an increasingly relevant and necessary teaching modality, especially in the context of digital transformation and adaptation to the new demands of a globalised world. The evolution of this modality is reflected in the growing recognition by higher education institutions (HEIs), government authorities and, above all, students looking for more flexible and accessible learning opportunities. This book arrives at a time of consolidation and expansion of DL in Portugal, particularly after the COVID-19 pandemic, which accelerated the adoption of digital technologies and forced a re-evaluation of traditional educational practices.

Throughout this book, the multiple facets of DL will be explored, to provide a comprehensive overview of the role that this modality plays in the educational system and how it may evolve in the future. In writing this book, we intended to reflect on the challenges, opportunities, and transformations that DL has brought to education, as well as on its potential to contribute to a more inclusive and innovative teaching in the coming years. The experience acquired through the accreditation process of new study programmes in the DL modality allows us, as members of the A3ES Thematic Committee for Distance Learning, and participants in several External Assessment Teams, to understand the difficulties and challenges faced by HEIs and teachers when developing new study programmes, when confronted with a new reality and a new normative framework. This book also aims to offer more contextual information on the characteristics, criteria, and expectations associated with quality DL.

DL is not merely a transposition of face-to-face teaching to an online environment. On the contrary, DL requires a profound reformulation of pedagogical, technological, and institutional practices. It is a distinct educational modality with its own characteristics, demanding significant adaptation from all participants in the educational process. As we will demonstrate throughout this book, the success of DL depends on factors such as the development of adequate technological infrastructures, the continuous professional development of teachers, effective student support, and, of course, a pedagogical model that ensures the quality of the programmes offered.

The book begins with a brief review of the history of DL, particularly in Portugal and in Portuguese-speaking countries. A reflection is also made on the fundamental pillars and characteristics of DL, with special emphasis on the role of the student and the teacher.

In the second chapter, we introduce the Portuguese legislation that regulates DL. Legislation has played a crucial role in providing the necessary legal framework for the creation and accreditation of DL study programmes. This framework establishes pedagogical principles that guarantee the quality of educational offers while allowing innovation by HEIs. The chapter explains these guidelines, illustrating them with theoretical and practical examples.

In the third chapter, the history of the first accreditation of programmes in DL is presented. Alongside a comparative analysis of the evolution of programme accreditation, the chapter also examines the rationale for cases of non-accreditation

or accreditation with conditions. This information is particularly relevant for HEIs, as it provides insight into the main weaknesses historically identified in accreditation processes. Furthermore, testimonies from institutions whose programmes have been accredited are included, highlighting their implementation experiences and the challenges encountered along the way.

In the second part of the book, international authors representing a range of countries and HE sectors present us with seven themes directly related to DL from a practical perspective and based on their individual experiences. In the first subchapter, Linda Price reflects on the transition from face-to-face to DL. This text is especially relevant for institutions without distance learning experience that see, in this modality, an opportunity to diversify their educational offer.

In the second subchapter, Sílvia Sivera-Bello and Teresa Guasch discuss the experience of transitioning to a new teaching and learning platform (LMS) at the Open University of Catalonia (UOC). The authors present this process of digital transformation while reflecting on the opportunity that these changes provide in the rethinking of pedagogical models. The success of DL depends on a pedagogical design that goes beyond the simple transposition of face-to-face content to online. This pedagogical transformation, as discussed in the following articles, involves the creation of interactive activities that place the student at the centre of the learning process. In DL, the student becomes a more active and independent agent, which requires an adaptation of traditional teaching methods. The role of the teacher also shifts from that of a transmitter of knowledge to a facilitator of the learning process, providing guidance and support to students.

In the third subchapter, Susan Zvacek discusses the assessment of learning as an element in the monitoring of student progress in the context of DL, presenting it as one of the most important elements in the pedagogical process. Assessment not only helps teachers monitor and certify student learning but also contributes to students themselves being able to carry out self-assessment and self-regulation of their learning process. The text includes examples of different assessment methods in DL and underlines the importance of teacher feedback in the learning process.

In the fourth subchapter, Liz Marr addresses the challenge of student dropout in DL. The author reflects on dropout rates, which tend to be higher in DL than in face-to-face teaching. The flexibility of DL, one of its main advantages, can also represent a challenge for some students, who may feel unmotivated or overwhelmed by the autonomy required of them. In addition, the profile of DL students- often working adults and outside the traditional age group - can contribute to lower success rates. The text discusses strategies implemented by HEIs to reduce dropout rates, such as personalised student monitoring, the provision of tutoring, and the creation of learning communities. The role of tutors is fundamental to ensure that students do not feel isolated and have the necessary support to overcome difficulties.

In subchapters five and six, reflections and practical aspects are presented on the introduction of new concepts and challenges in the future of DL. Author Ángeles Sánchez-Elvira Paniagua, from Spain's Universidad Nacional de Educación a Distancia, reflects on the future of distance education, discussing the role of open universities in the democratisation of HE and their ability to reach a larger and more diverse number of students, including non-traditional students. The author

compares the Spanish reality and demonstrates the significant increase in students in DL in relation to face-to-face teaching.

Mychelle Pride explores the impact of Artificial Intelligence (AI) on HE, with a special focus on DL. Her presentation addresses the model of using AI at the UK Open University, the world's oldest distance learning HEI. In addition to highlighting institutional positioning and strategy, Pride explores the guiding principles and strategies adopted to develop this strategy, and shares the lessons learned throughout the process.

Finally, in the last chapter of this section, George Ubachs and Piet Henderikx from the European Association for Distance Teaching Universities (EADTU), present examples of quality evaluation processes in DL, stressing the need to involve multiple stakeholders and evaluate a set of dimensions that go beyond the pedagogical process.

This book offers a comprehensive reflection of the past, present, and future of distance learning in Portugal. Our analysis highlights the multiple factors that influence the success of DL, from legislation to pedagogy, through technology and institutional support. We hope that readers can find, in these pages, not only a deeper understanding of the current state of DL, but also inspiration to continue to innovate and transform education in their institutions.

1. INTRODUCTION

Paula Peres, CEOS.PP, ISCAP – Instituto Politécnico do Porto, Portugal

Distance learning (DL) has existed for decades. Initially, the primary aim of developing DL was to ensure that people living far from large urban centres had access to education. The development of the post office and the printing press made it possible for people living in rural areas to access educational materials. The University of London was one of the pioneers in DL by postal correspondence. Over the years, and with the industrial revolution, a new era of DL emerged, this time with the use of radio and television, offering educational programmes on a large scale, the most notable cases being the open universities of Spain, Australia, the United Kingdom, and the United States of America. Progress in information and communication technologies led to the widespread use of personal computers and, around the 1980s, this progress enabled computer-assisted learning, in which students could acquire knowledge in a more interactive way, in dialogue with educational programmes. The student took on a more active role, abandoning the position of mere recipient of knowledge. But the great revolution in DL came with the emergence of the Internet, due to the countless possibilities for integrating technology into teaching and learning systems, particularly through the use of videos, discussion forums, and chats. Distance learning became characterised by interaction, resulting in a radical change of the learning experience. The concept of isolated study was abandoned for networked, proximity study, which is much more interactive, not only with the content of the training programme, but also with other actors in the social and cognitive interaction space, in a knowledge structure on a global scale. At this time, the big learning management systems such as Moodle or Blackboard began to emerge.

The reality in the Portuguese context is not very different from the global context. The history of DL in Portugal took its first steps between the 1960s and 1970s. RTP (Rádio Televisão Portuguesa) was one of the main driving forces behind this evolution, broadcasting classes on various subjects, from primary to higher education, to students all over the country. The "tele-escola" initiative was a benchmark in the history of distance learning in Portugal. In 1988, the Portuguese Open University was created to offer distance learning programmes at the undergraduate and postgraduate level. These programmes were based on printed materials and tutorial support.

The appearance of the Open University in the Portuguese higher education sector follows the creation of other institutions of a similar nature in the UK (1969), Spain (1972) and the Netherlands (1984). But the real revolution in DL in Portugal took place at the turn of the century. The decade began with a huge expansion of DL, driven by the advance of internet technologies, namely LMS, videoconferencing technology, real-time communication such as chats and, asynchronous communication such as digital forums. A number of educational institutions, with more traditional roots, from various levels of education, have taken part in this expansion, and gradually made a name for themselves among the growing offer of DL programmes. Currently, once again, due to technological developments, we are experiencing a new milestone in the potential expansion of DL in Portugal. With the opportunities introduced by artificial intelligence (AI) tools, virtual reality,

adaptive learning, and other resources, we are moving towards an increasingly inclusive, democratic, and flexible education in terms of time and place, as well as the possibility of greater personalisation of learning paths. It is now possible for an online student to learn how, when, and where they want, at their own pace.

The evolution of DL brings with it a set of challenges that educational institutions need to face, starting with the difficulty they often experience in involving students in the online teaching and learning process. The absence of physical presence can hinder the performance of students who lack sufficient motivation and self-discipline to progress autonomously along their learning path. Motivation and autonomy are therefore essential characteristics of an online student. In addition, there is a need for great time management skills, both from the teacher's and the student's point of view. The teacher must offer the student learning activities that are balanced in terms of time and complexity. If the student has plenty of time to carry out an activity, they may delay this task and end up becoming demotivated. If, on the other hand, the student feels they don't have enough time to carry out the proposed learning activity, they may give up before they even start. The same applies to the complexity inherent to an online learning activity. If students feel that the activity is too complex or too simple, they may not feel motivated to get involved. In this context, it is also essential to promote interaction between teachers and students to understand expectations and promote collaboration. This interaction should go beyond the teacher-student relationship, involving all the players in the teaching and learning process, as well as technologies, and educational content. It is also in this process of interaction that the teacher is expected to provide constant feedback and assessment of the students' work. This assessment and feedback must be meaningful and can take place in the cognitive, social, pedagogical, and technological dimensions. In a cognitive dimension, the student seeks to understand the subjects being studied. In the social dimension, the student tries to fulfil their role in the social context of teaching and learning. In the pedagogical dimension, the student understands their own learning process, knows why they are learning, and how they are learning. In the technological dimension, the student expects the effective use of technologies to support the teaching and learning process. With regard to the technological dimension, it is crucial that the educational institution invests in appropriate digital infrastructures and tools.

Teachers also need to be familiarised with these technologies and be available for continuous professional development. These technologies must also facilitate access to teaching materials and resources to all students, including those with physical or cognitive disabilities and from different socio-economic backgrounds. All of these challenges must be taken into account to create a quality teaching and learning environment, in addition to concerns about the design of teaching materials, as well as the specific methodologies of these online learning environments. To meet these challenges, a concerted effort is needed between the different players in educational environments, from governance agents to educational institutions, teachers, and students. This joint effort aims to leverage the great advantages of using DL in a national and international space in which, in general, technologies are used to innovate teaching and learning processes, for a networked society that takes advantage of individual differences, inclusive education, personalisation of learning paths, and flexibility of time and space for learning. DL is about access to an online education environment that can be

accessed by people from different geographical locations. If it weren't for the possibility of participating in an online environment, many of these people would be excluded by the impossibility of travelling to a particular physical space. People who are physically disabled or marginalised for any reason are also included in this group. These environments offer flexibility of time and space, allowing students to learn whenever and wherever they want. It is this flexibility that facilitates lifelong learning. Students will be able to access online training at different stages of their personal and professional lives, extracting all the potential that the latest technologies can offer in this area of education. It is an environment that promotes collaboration on a global scale. Students from one educational institution can collaborate in an academic exchange with students from another educational institution located anywhere in the world, thus exploiting the full potential of cultural diversity. These are sustainable environments, where there is a reduction in physical travel, paper, and energy used.

When a student participates in an online learning community, they develop their digital skills and prepare themselves for an increasingly technology-driven society. There is also the issue of responding to emergency situations such as the COVID-19 pandemic. Emergency Remote Learning was the way that many educational institutions found to continue the teaching and learning processes, even without the physical presence of teachers and students in the school.

One of the great advantages of DL is the ease with which a resident of one country can be a student at a university in another country, largely due to the current technologies used by higher education institutions (HEIs) capable of creating unique learning experiences in a global context. The flexibility of time and space is one of the advantages that makes it possible to resolve the issues of relocation and time zones. This expands learning opportunities for students. At the same time, the mutual recognition of qualifications and diplomas facilitates student mobility at any HEI specialising in DL or Open Universities with a wide range of undergraduate and postgraduate courses on offer. We are also seeing the creation of joint programmes in collaboration and partnerships between various HEIs, with the aim of offering common proposals and providing culturally diverse experiences for students. HEIs are subject to accreditation and quality standards set by national and international quality assurance agencies that seek to guarantee standards of excellence in the field of DL.

The Lusophone world, which includes Portuguese-speaking countries, has experienced great growth and relevance in terms of DL. In Portugal, the Universidade Aberta (Open University) has been a huge driver of DL, along with many traditional HEIs that are gradually integrating DL initiatives into their training programmes. The introduction of the Open University programme in Brazil occurred in 2006 with the aim of expanding and internalising distance higher education, prioritising the initial training of public basic education teachers without a degree and the continued training of those already with a degree. The aim of the programme, which includes several Brazilian universities, is to reduce inequalities in higher education and create a national DL system.

Angola, Mozambique, Cape Verde, Guinea-Bissau, and São Tomé and Príncipe are Portuguese-speaking African countries where DL is increasingly being used to bring education to remote and rural areas. In East Timor, DL is gaining prominence mainly where the educational infrastructure is limited. In many situations, DL is

based on partnerships with foreign institutions to offer students more meaningful and quality learning experiences.

The future of DL could radically change the way we teach and learn. The use of AI tools could make it possible to create a personalised space adapted to the needs of each student. The introduction of virtual reality and augmented reality promises to create immersive environments for demonstrating complex concepts. At the same time, gamification is another way of involving students in a challenging environment with competition, immediate rewards and appealing narratives that facilitate the construction of knowledge. The concept of microlearning and continuous learning is also a very important factor in the expansion of DL; these allow students to request small units of easily assimilated content on demand. The future of DL is still a long road full of opportunities to make education a sustainable and enjoyable process.

2. THE PORTUGUESE LEGISLATION FOR DL–DEFINITIONS; PRINCIPLES AND THEORETICAL FRAMEWORKS

Diogo Casanova, Vice-Rector of Universidade Aberta and researcher at the Distance Education and eLearning Laboratory and CIDTFF, Portugal

2.1. CLARIFICATION OF CONCEPTS ABOUT DL

Decree-Law 133/2019 of September 3rd approves the legal framework for higher education taught at a distance. Distance learning (DL) is an alternative model for higher education, dependent on digital mediation and training contexts that advocates flexibility of space and time. DL is defined in article 3rd (b) of the Decree-Law 133/2019 as *"an education predominantly taught with physical separation between the participants in the educational process, namely teachers and students*[1]*"*, in which: (i) interaction and participation are technologically mediated and supported by academic and technological support teams available in an online environment; (ii) the curriculum design is anchored in principles that allow access to the content, processes, and contexts of teaching and learning without limits of time and place; and (iii) there is a pedagogical model developed with the purpose of allowing teaching and learning in virtual environments, i.e., respecting the characteristics above indicated.

The introduction of DL with the characteristics set out above, associated with the Portuguese state's objectives of training 50 thousand adults by 2030, justifies the legislator's guidance for DL to be directed mainly to students outside the traditional age of reference. Students who can take advantage of the flexibility of space and time, either because they are located outside the big university cities or because they value being able to learn when, where, and how they prefer.

Moreover, for this reason, the legislator anticipates the role that DL can acquire to globally promote higher education in the Portuguese language, especially in Portuguese-speaking countries and in the diaspora. Here also, the flexibility of space and time, allows students, once distant from the Portuguese higher education sector, to actively participate in quality and accredited education.

The current legislation only applies to study programmes in which at least 75% of the total credits are taught through DL, as per article 3rd (a). To determine the 75% of ECTS credits that qualify a new study programme as DL, the ECTS credits of the curricular units taught predominantly through DL must be considered in full. A curricular unit is taught in DL if the majority (over 50%) of its contact hours are conducted through DL methods, both asynchronous and synchronous.

The definition of contact hours assumes the existence of planning and a pedagogical approach anchored in a pedagogical model common to all curricular units because it is important to count not only synchronous contact hours but also asynchronous contact hours. This means that in addition to the necessary design of the curricular units that include a constructivist alignment perspective in which learning outcomes, content, and assessment strategies are properly mapped,

1 Literal translation from the citation in portuguese: "um ensino predominantemente ministrado com separação física entre os participantes no processo educativo, designadamente docentes e estudante" retrieved from article 3rd (b) of Decree-Law 133/2019.

learning strategies and activities (including contact hours) must also be defined early on, during the course design and submission for accreditation. Later we will address the definition of learning methodologies and activities (e-activities for the context of DL), and how these can be designed from a pedagogical model specially designed for teaching and learning in virtual environments.

The legislator considers that DL can be a high-quality alternative to the face-to-face modality. However, the document mentions the importance of study programme proposals that are not limited to reproducing in a virtual environment what is done in the face-to-face modality. This attempt to replicate face-to-face offers was frequent during the COVID-19 pandemic, during which higher education institutions (HEIs) and their teachers were "forced" to move theoretical and practical classes, developed for a face-to-face context, to video conferencing sessions, (involuntarily) giving the idea that these were DL classes. Experts in the field of DL have sought, from the outset, to distinguish traditional DL from emergency remote teaching, which has been personified by this sudden transition from learning contexts designed for face-to-face teaching to synchronous moments organised using Zoom (Hodges et al., 2020; Seabra et al., 2020). The current legislation anticipated this scenario by clearly defining the requirements for an adequate DL programme and, as we saw above, it is mostly based on asynchronous activities that allow the student to access the content, processes, and contexts of teaching and learning without limits of time and place. However, the legislation highlights the need for DL offers to have an object of study and objectives that are appropriate to this modality of teaching and learning. For example, even with the advancement of educational technology available in higher education today, it will be challenging to offer a study programme with the expected quality and with the guarantee of providing the acquisition of the expected learning outcomes, in areas of study that involve a relevant requirement of clinical, laboratory or other practical training in which the physical presence and/or handling of utensils/objects/people in a given space or moment is essential. It is important, however, to note that this guidance given by the legislator in Article 4th of Decree-law 133/2019 does not preclude the accreditation of study programmes in some scientific areas, although it does make it difficult given this possible lack of suitability to the teaching modality.

2.2. PEDAGOGICAL MODEL

In the legal framework, reference is made, in several places, to the need for a pedagogical model specially designed for teaching and learning in virtual environments (Article 3rd and Article 10th of Decree-law 133/2019). A pedagogical model is the reference framework that serves as the pedagogical vision and guide for the institution, teachers, and students, to guide the design, development and availability of the offer, in this case, in DL. The Pedagogical Model includes the essential principles and guidelines for teaching and learning, containing the fundamental pedagogical guidelines focusing on the role of the students and the enhancement of their learning experience. A pedagogical model for a HEI that intends to pursue the DL modality must be designed to effectively engage students in remote learning environments while promoting meaningful active learning, collaboration, and interaction. It should signal not only what you intend to do in the present, but also, and above all, have a strategic vision for the future. The pedagogical model allows for the existence of a common language that promotes

consistency of pedagogical approaches, allows the management of expectations of teachers and students, and promotes the definition of roles and responsibilities. It should, therefore, include a set of instructions and guidelines for those whom it addresses. Examples of Pedagogical Models for DL are the Virtual Pedagogical Model of the Universidade Aberta in Portugal (Pereira et al., 2007), the Academic Project for DL of the Universidade Europeia (2021) or the DL Model of the Instituto Politécnico de Leiria (2010). Article 18th of Decree-law 133/2019 makes it a requirement for institutions to publish their pedagogical model and the learning and assessment activities.

2.3. MATERIAL AND TECHNOLOGICAL MEANS

The pedagogical model should refer to the Teaching and Learning platform, specifically, the name of the HEI´s adopted solution; the way it is organised for students (by programme or by curricular unit); how the assessment is managed (by programme or by curricular unit); and how the curricular units are organised (by topic; per week; by learning outcome; by project, etc.). As part of the presentation of the pedagogical model, information regarding the graphic image of the platform, as well as concerns related to accessibility and usability of the platform, may be provided. It is natural (although not a requirement) that higher education institutions choose to use templates (models for organising information and content) in their Teaching and Learning platform to ensure consistency between curricular units and facilitate the role of teachers in the development and organisation of activities (Price et al., 2017).

Also in this dimension, references to digital communication tools should be included, as well as access to bibliographic resources and institutional strategies for producing digital resources. As to the existence of adequate material and technological means, article 9th of Decree-law 133/2019 requires institutions to provide evidence of the existence of:

> *Infrastructures and technological systems that result in a virtual campus with pedagogical interaction functionalities, permanently accessible to all participants in the educational process, especially teachers and students, and complying with information security requirements.*
>
> *A student-friendly website that guarantees permanent access to digital libraries, repositories, digital materials lending services and virtual labs.*
>
> *An integrated academic management system that ensures the dematerialised processing of all academic processes, including a remote communication system for student service that allows the realisation, in digital mode, of applications, enrolments, registrations, access to evaluation results, and other documentation and information of an administrative nature*[2].

The pedagogical model should reflect some of the necessary conditions for offering study programmes in DL as those mentioned above, although inclusion of this information is not mandatory. It is important to reflect on the context of the student who attends a DL programme and the difficulty the student will have in transitioning to the face-to-face campus to take advantage of the conditions offered

2 Literal translation from the citation in Portuguese, retrieved from article 9 of Decree-Law 133/2019.

by the institutions to face-to-face students. A virtual campus should replicate (in some way) the same experience in accessing resources, administrative and academic support that the student would have in the face-to-face environment. Article 18th of Decree-law 133/2019, in paragraph f, refers to the importance of institutions advertising the specific services and support to which each student will have access to remotely.

2.4. INSTRUCTIONAL DESIGN AND ORGANISATION OF ACTIVITIES

The most well-known and used pedagogical models for DL are anchored in a student-centred learning that is preferably flexible in terms of learning time and space (Conole, 2007; Laurillard, 2012; Pereira et al., 2007; Salmon, 2002). One of the central aspects of pedagogical models for DL is the identification of approaches for instructional design and activity organisation, namely:

- what approaches will be used (e.g. project-based or question-based learning; flipped learning; experience-based or gamification learning).
- what type of activities are specifically planned: acquisition; collaboration; discussion; inquiry; practice and/or production (Laurillard, 2012).
- what is the role of continuous assessment and feedback (Amante & Oliveira, 2019; Casanova, 2021).
- what is the role of synchronous communication and asynchronous communication in the relationship between the teacher and the student.
- what is the role of the teacher in each moment of the student's learning.

Strategies for the development of online activities (e-activities) are crucial elements in the planning of students' learning path. In addition to the need of aligning the activities with learning outcomes, content and assessment, it is also important to consider the technological means necessary to carry out the activities, the type of activities to be developed, their degree of complexity, and the communication model (synchronous or asynchronous) (Britain, 2004; Conole, 2007).

Given the needs, constraints, and schedules of the typical DL student, the mandatory learning activities and/or those that have an impact on the assessment must be asynchronous to ensure flexibility of time, given the students´ profile and the constraints they have in their personal and professional life. Asynchronous activities can be short, pre-recorded videos for this type of format (as opposed to recorded lectures), readings, and other multimedia resources and tasks that students can access and complete at their own pace, self-assessment activities (e.g. through short quizzes that allow the student to self-regulate their learning), and/or forum discussions.

Although asynchronous learning offers the necessary flexibility in DL and should be the basis of the Pedagogical Model, synchronous sessions can be essential to promote real-time interaction, clarification of concepts, and construction of a sense of community between students and instructors, that allows the combat of isolation, one of the major causes for student dropout and academic failure in DL (Means et al., 2014; Offir et al., 2008). Introductory and orientation sessions, promotion of

a social environment, interaction between students and teachers, clarification of aspects of assessment, or individual or group tutoring sessions, are examples of relevant synchronous moments that can enrich the pedagogical process.

The interconnection between asynchronous activities and synchronous sessions must be rigorously planned and, preferably, applied consistently across all curricular units. Therefore, it is recommended that the pedagogical model convey a clear and coherent message regarding the communication approach to be adopted. The pedagogical approach of DL is not intended to be an online reproduction of the traditional synchronous methodologies of face-to-face teaching, but rather a model that reflects the specificities and needs of the students for whom this modality is the most suitable.

The decisions regarding these various features should be properly aligned with the description of the teaching and learning methodologies. It is important that the choices about the learning methodologies, at the level of the curricular units, are developed as a result of the principles defined in the pedagogical model, thus clearly demonstrating consistency and coherence with the institution's vision for DL.

2.5. CURRICULUM STRUCTURE

The time and space flexibility of DL allows students to progress in their learning path according to their schedules, adapting to both personal and professional demands. This approach not only requires a new way of thinking about pedagogy but also represents an opportunity to innovate in the curriculum to better meet the needs of the students. Thus, it is expected that the design of study plans will be oriented towards providing high flexibility in enrolment and attendance, including a significant offer of elective modules (see Articles 3rd, 10th, and 11th of Decree-Law 133/2019). This option aims to promote personalised learning paths that adapt to the specific training needs of each student.

In practical terms, this curricular flexibility can be generated by allowing the creation of learning paths appropriate to the student's interest (minors and options that complement the area of study), by offering part-time study modalities, by allowing enrolment in any curricular year and in a variable number of modules per year, except in cases where enrolment is dependent on successful attendance of a previous module (Article 11th, paragraph 2 of Decree-Law 133/2019). Although this information is not mandatory to include in the pedagogical model, it is, nonetheless, important to provide it so that the coordinators of the study programmes can develop more flexible and appropriate models for students.

Curricular flexibility can also be demonstrated through alternative pathways created for the student at the level of the modules, particularly in assessment. For example, the Virtual Pedagogical Model of Universidade Aberta (Pereira et al., 2007) allows for the students to be assessed through a continuous assessment path or through a final assessment path, the decision being made by the student in each module. In the latter assessment choice, it is assumed that the student has already developed a set of knowledge and skills that allows them, through the reading of the resources and without the need to carry out the training activities, to proceed with the assessment through a final exam. Another opportunity for flexibility is to provide optional learning paths that suit students' preferences (more visual or more textual;

more active or more passive). The flexibility of the learning process allows DL offers to adapt to the type of student and their needs.

2.6. ASSESSMENT OF LEARNING AND FEEDBACK

In DL, given the specificity of pedagogical models, the assessment component becomes an integral part of the teaching and learning process. The assessment process not only certifies, but also, and above all, serves as a formative process that promotes more authentic learning (Pereira et al., 2015). The student learns through the elements of assessment and the feedback they receive from the teacher. Assessment assists the student in the process of self-regulation and provides relevant information about how the student is progressing concerning the proposed learning outcomes (Nicol & Macfarlane-Dick, 2006). In terms of legal reference, article 14th of Decree-Law 133/2019 refers to the need for higher education institutions to define formative and summative assessment methodologies, which can be carried out in person (exams must be carried out at appropriate locations, geographically decentralised and easily accessible by students) or through technological platforms, provided that the reliability of the assessment is ensured. To allow greater flexibility, personalisation, and accessibility of the student to the assessment, something that is difficult to achieve with a face-to-face written exam, HEIs must provide systems for monitoring and verifying the identity of students when carrying out assessment (article 18th, paragraph e, of Decree-Law 133/2019).

Digital mediation creates various opportunities in the teaching and learning process. Through the digitalisation of the learning and assessment processes, it is possible to strengthen the pedagogical aspect of assessment and personalisation through the introduction of strategies to monitor student participation; tools for analysing the learning process; and the collection of feedback, thus motivating the student and allowing greater interaction with the teacher/tutor. Being in a digital environment and mostly asynchronous, assessment strategies in digital media allow asynchronous access to teacher feedback, thus allowing the student to use both feedback and assessment processes as learning resources.

The distance component of the assessment of students' learning should privilege continuous assessment, through strategies articulated with learning activities (i.e., essays, submission of assignments and reports, group work, multimedia artefacts). Assessment should also focus on the learning process (i.e., the use of reflective portfolios and documents) and not just on the learning product. Finally, it should seek to assess competencies (skills, knowledge, and attitudes) and not just knowledge (Amante & Oliveira, 2019). According to this approach, "assessment for learning" is given primacy instead of the more traditional "assessment of learning" (Amante & Oliveira, 2019), that is, assessment used as a pedagogical strategy instead of being used only as a certifier of the acquisition of learning outcomes. For the type of students who are mostly adults and have professional experience, this type of approach enhances their professional background and experiences, contributing to more authentic, meaningful, and motivating learning (Herrington et al., 2003).

It would be counterproductive to assess DL students in the same way we assess face-to-face students. Firstly, because we would not take advantage of the digitalisation of the learning process, as explained above, and, secondly, because we would move away from the flexibility of space and time advocated by the legislation. Safeguarding the need to create mechanisms that verify the identity of the student and the reliability of the assessment, it is important to look at the assessment in an integrated way with the teaching and learning strategies and not in isolation.

2.7. TEACHING STAFF

The preparation of the teaching staff for DL is not only a requirement of Decree-Law 133/2019 (article 8th, paragraph a) but also an aspect highlighted in the literature as being essential for the offer in the DL modality (Casanova & Price, 2018; Englund et al., 2018; Moreira et al., 2023). Based on DigCompEdu (Bilbao Aiastui et al., 2021), it is easy to see that it is not only relevant to develop pedagogical and technological skills on how to use technologies in digital contexts, but also to develop skills that empower students in learning and assessment strategies and promote development of academic and technological skills that enable communication, critical thinking, content production and, consequently, the development of information and media literacy (Lucas & Moreira, 2018). The importance of pedagogical training is even more significant due to a general lack of knowledge and experience among the teaching staff regarding the fundamentals and principles of DL in particular, and university pedagogy in general (Viera, 2014).

Online teaching practices vary significantly among teachers and among curricular units, and this lack of homogeneity is even more evident when the pedagogical model is not well-defined nor well-understood by the teaching team. Lack of homogeneity often results in inconsistent experiences for students. This lack of homogeneity can be attributed to two aspects: on the one hand, the lack of pedagogical training that allows for a sustained framework of a properly substantiated rationale to inform online design, planning, and moderation actions; on the other hand, the teaching staff have their convictions and approaches to teaching typically rooted in their previous teaching and assessment experiences which shape their academic identity (Mclean & Price, 2016). These experiences include not only their teaching experiences – for example, during the transition to emergency remote teaching during the COVID-19 pandemic – but also their experiences as students, mostly in face-to-face contexts and without being confronted with DL. These experiences naturally end up influencing the way teachers perceive teaching and how they articulate their practices (Englund et al., 2017).

It is therefore important to highlight the participation in well-established continuous professional development (CPD) initiatives in DL. CPD training allows the teacher to confront their scientific knowledge with the theoretical pedagogical frameworks and, at the same time, interconnect both with the knowledge of the most appropriate technological tools. The TPACK (Technological, Pedagogical, and Content Knowledge) model, proposed by Mishra and Koehler (2006), is an example of a training model that integrates not only the disciplinary knowledge (CK), but also the knowledge of the various contexts in which educational activities take place, the modality of DL and respective pedagogical frameworks (PK), and the knowledge of technology (TK). This integration allows for a holistic, transdisciplinary, and integrative understanding of educational activities, meeting the dynamic needs of both educational and societal contexts. It is equally important that this training is robust, not only from the point of view of its duration (to allow time for reflection on

practice), but also from the perspective of evidencing the acquisition of these skills by the teaching staff (e.g. by being offered by a recognised institution and/or having the acquired skills assessed).

As both the experience of teaching in DL and the authorship of scientific articles in the area are important, these two activities should not be considered as substitutes for pedagogical training. Pedagogical training serves not only to develop skills but also to confront the knowledge acquired with new tools, new theoretical frameworks or with the experiences of other colleagues also involved in training actions.

2.8. SUPPORT FROM SPECIALISED TECHNICIANS

Recognising the role of the teacher in the design, development, and mediation of a module in the DL, the HEIs should not only demonstrate the existence of specialised technicians with the appropriate qualifications, and in sufficient numbers, to provide individualised support to students, but also demonstrate the existence of a team of non-teaching collaborators who gather technical-pedagogical skills to collaborate with teachers in the curricular design of the study plans and of the materials of the study programmes. This need is conveyed by Article 8th (b) and (c) of Decree-Law 133/2019.

The need for specialised technicians can be understood as the need for tutors to accompany the student during the study; support technicians for the development of academic skills; psychological support and/or library support. The level of skills will depend on the pedagogical model itself, the degree of complexity of the offer, and the role of the teacher in mediating the teaching and learning process.

On the other hand, it is equally important to show that there are teams that support teachers in instructional design, in the production and editing of multimedia and e-learning content, and in pedagogical innovation. The teaching team must have at their disposal, the support of a qualified team to help them rethink their pedagogical strategies for a teaching modality with different characteristics and aimed at students with a different background when compared to other HE students. A more technological support team should also be made available to support the operationalisation of the tools for teachers and students. The existence of a training and pedagogical CPD innovation programme does not replace the need for pedagogical and technological support. These complement each other.

2.9. FINAL CONSIDERATIONS

Decree-Law 133/2019 presents the national framework for the distance learning modality. Being a document that is not very detailed and, therefore, allows for subjective interpretation of the most relevant aspects, it is also a relevant document for positioning the DL modality within Portuguese HE. When discussing pedagogical options that support a teaching and learning model, it is natural to search the literature for support for an institutional strategy. The national legislation is anchored on consensual principles in the literature in the field, as it was possible to ascertain throughout this chapter. Firstly, DL provides for flexibility of time and space, with the student being able to study whenever and wherever

they want, suggesting a markedly asynchronous learning. Secondly, the theoretical frameworks are strongly anchored in student-centred learning, where the student learns by engaging in activities, assessment elements, and interaction with peers and with the teacher. Thirdly, there is a need to create specific conditions to support teachers and students in the teaching and learning process, both with the development of an appropriate pedagogical model and the support by specialised technicians. The legislative framework is relatively innovative within the European HE area. It allows us to define the objectives for DL in Portugal and, in particular, to identify the target audience. This audience includes adults who can benefit from the flexibility of time and space in the learning process, as well as individuals geographically distant from Portugal who can take advantage of the digitalisation of teaching, learning, and assessment.

3. HISTORY OF THE FIRST DL ACCREDITATION PROCESSES AND SOME TESTIMONIES

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With the publication of Decree-Law 133/2019 of September 3rd, which regulates Distance Learning (DL) in Portuguese Higher Education, and after the start of emergency teaching due to COVID-19, the Portuguese Agency for Assessment and Accreditation of Higher Education (A3ES) opened a first submission period for proposals for New Study Programmes (NSP) in DL at the end of 2020. This chapter aims to review the results of the evaluation processes for NSPs in DL submitted since then, as well as the testimony of some of the higher education institutions (HEI) with approved proposals.

3.1. HISTORY OF ACCREDITATION PROCESSES FOR NEW DISTANCE LEARNING PROGRAMMES

Between 2020 and 2023, a total of 147 NSPs in Distance Learning were submitted to A3ES for accreditation. The following graph shows the evolution of submissions each year and, until 2022, the number of non-accredited proposals per year.

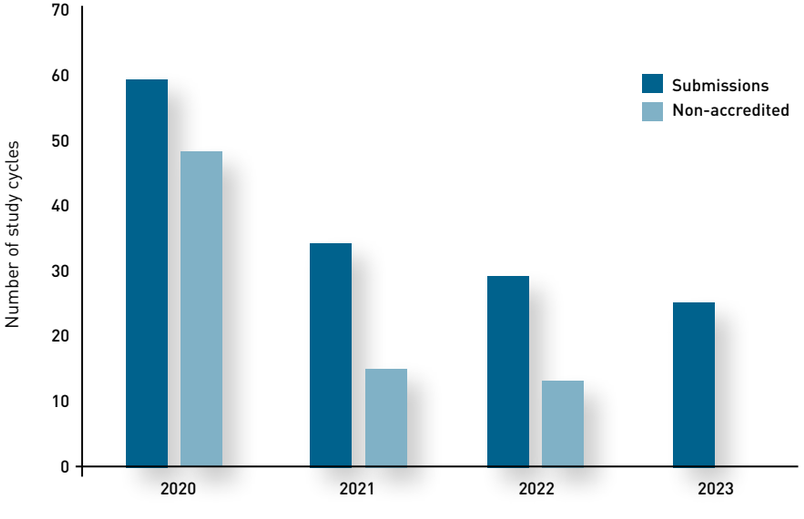

Figure 1: **Number of new DL programmes submitted to A3ES between 2020 and 2023**

Of the 121 submissions that have already been evaluated, a total of 45 study programmes were accredited, with or without conditions, i.e. around 37% of the submissions evaluated. The following graph shows, for the total of 76 non-accredited study programmes, the most common reasons, among the specific requirements for DL, which justified the recommendation for non-accreditation.

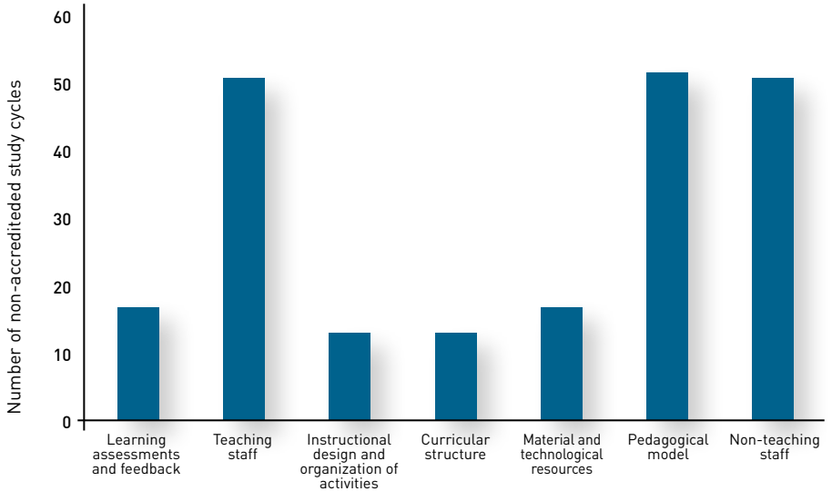

Figure 2: **DL requirements that supported the non-accreditation recommendation**

We now describe some of the most common observations related to DL in the evaluation reports of the External Assessment Teams (EATs), which supported the recommendation of non-accreditation by the A3ES Management Board.

Regarding **learning assessments and feedback**, there is not always sufficient adaptation to the DL modality, which requires a strong emphasis on continuous assessment activities and timely feedback. In some cases, there is an excessive reliance on exams or written tests, resulting in a failure to take advantage of the various elements of student participation in synchronous and asynchronous moments. At other times, the reliability of the testing software and how it ensures authenticity when exams are taken remotely is not demonstrated. It is also necessary to provide elements that indicate how the privacy of students will be preserved during remote assessment moments. The HEI's data protection policy must exist and must comply with the current legislation and the guidelines produced by the National Commission for Data Protection (CNPD). In the event of face-to-face assessment, it is necessary to plan for its occurrence and contemplate the existence of geographically distant students. Some study programmes have little or no feedback for students throughout their curricular units (CUs). The generalisation of attendance as an element of assessment is not aligned with the principle of spatial and temporal flexibility of Decree-Law 133/2019.

The most common observation made by the EATs is that the **teaching staff** do not have significant pedagogical training or experience in DL, as required by Decree-Law 133/2019. Many teachers have not demonstrated that they have sufficient knowledge and competence to adapt the content of the CUs they teach to DL. The remote teaching that took place due to the COVID-19 pandemic cannot be considered as DL since the study programmes, the respective CUs, and the teaching-learning methodologies were not designed for this purpose. The training given to lecturers must be described and it must be demonstrated that its content is suitable for teaching. In some cases, the coordinator of the study programme has little experience and/or training in the design of DL courses or programmes. In other instances, there are inconsistencies between the number of students planned for the study programme and the teaching staff allocated to the programme, making it impossible for the teaching staff to ensure that the students are properly monitored.

In the **instructional design and organisation of activities**, it is necessary to bear in mind that the teaching-learning methodologies planned for the synchronous contact hours should not be limited to lectures, nor to a simple transposition of classroom lessons to the online environment. The teaching-learning methodologies should identify what can be done in the asynchronous hours of each curricular unit and what the expected results are, as well as the expected interactions between students and between students and teachers. In some cases, the digital competences required for students to access a DL programme are not specified or, alternatively, there are no mechanisms present to enable students to develop the digital competences necessary to attend the programme. There have also been instances when the general and learning objectives of the study programme are not compatible with DL. In other situations, the learning outcomes have not been adjusted to be developed through DL. The approach of operating the study programme exclusively on a fixed timetable should be avoided, as this limitation is incompatible with the requirement for flexibility in learning required in DL. When a face-to-face component is required, due to the scientific nature of the study programme, its interconnection with the distance component should be ensured. Some HEIs have not demonstrated the integration of DL into their educational project. In fact, DL must be seen as a high-quality alternative to face-to-face teaching and not merely as a reproduction of it. For example, there have been situations in which some of the institutions' internal regulations are not adapted to the existence of DL study programmes, such as the performance evaluation of teaching and non-teaching staff.

The **curricular structure** of the study programme should not be overly dependent on synchronous learning, which goes against the flexibility required by Decree-Law 133/2019. In fact, international best practices regarding DL are based on active learning methodologies with a predominance of asynchronous activities that are flexible in space and time. The number of synchronous contact hours set in a programme should take into account the target audience of the study programme, for example if they have less time available, such as student-workers. The existence of an internship in a DL study programme needs to safeguard some additional aspects, such as the possible dispersion of the student body throughout national/international territory, which requires a careful search for locations for the development of internships and the definition of quality criteria for its selection. Procedures are needed to guarantee adequate monitoring of the student in the internship context.

In terms of **material and technological resources**, the institution needs to ensure the existence of infrastructures and IT systems that result in a virtual campus with pedagogical interaction features, permanently accessible to all participants in the educational process, especially teachers and students, and complying with information security requirements. In addition, an integrated academic management system is needed to ensure the dematerialization of all academic processes, as well as technological tools for students to remotely and securely access the institution's resources essential for the study cycle (e.g. databases, bibliographic elements, software...). In some instances, the technological resources to be used are not presented in the context of the teaching-learning methodologies of each curricular unit, nor is a description of which tools are to be used. In the case of a study programme with a strong practical distance component, it is necessary to describe the virtual laboratories that will be used. The institution must have adequate infrastructures for the development of teaching materials described in the study programme's pedagogical model.

One of the requirements established by Decree-Law 133/2019 is that HEIs must have a **pedagogical model** for DL. It is necessary to ensure that the definition of the teaching and learning methodologies described in the pedagogical model sufficiently demonstrates how the teaching process will work. The teaching-learning methodologies of the different CUs must be articulated with the institution's pedagogical model. Excessive homogenisation of teaching-learning methodologies among CUs should be avoided, and methodologies should be adjusted to the specific nature of each CU. The pedagogical model should specify the type of support provided to students, taking into account specific needs, particularly those of DL students with special educational requirements.

Some institutions do not have a technical-pedagogical team of **non-teaching staff** of sufficient size or with adequate qualifications to support the design, development, and management of DL programmes. In addition, these teams must provide appropriate support for students in the DL environment. A clear description of the training and experience of the technical-pedagogical team supporting DL is therefore required. The qualifications of non-teaching staff should not be limited to information technology skills but should also include technical-pedagogical competencies appropriate to DL.

3.2. TESTIMONIES OF THE LAUNCH OF NEW DL PROGRAMMES

After the first three years of accreditation of new DL study programmes, we attempted to determine how the launch of these new programmes was going *in situ*. The launch of a DL study programme demands a whole process of preparation, ranging from the design, development, and construction of the CUs in a virtual environment, to the preparation and coordination between teachers, the understanding and appropriation by all the players of the established pedagogical model, and the alignment of expectations, and the anticipation of the challenges inherent to the new teaching, learning, and assessment process.

In January 2024, testimonies were collected from eight HEIs with accredited new DL programmes. In these HEIs, a total of 13 accredited new DL study programmes were in operation, with a total of 370 students enrolled in this modality at the time. These institutions were asked to briefly describe the preparation process carried out before their study programmes were launched.

Training

One of the aspects most highlighted by the HEIs was the guarantee of adequate training for the teachers who would be teaching in a DL programme. Although pedagogical training of teachers was a mandatory requirement for the accreditation of the new study programme, in several of the testimonies collected it was clear that this training was continued and complemented until the study programme came into operation.

> *"We want to equip those involved with the tools and skills to capitalise on the potential of teaching/learning processes in a b-learning context (synchronous and asynchronous), as well as mediated communication, while also making them aware of its virtues and challenges."*

A wide range of pedagogical training was provided at the various HEIs, including training in topics such as *Curriculum design, Tutoring and online teaching models, e-Tutoring, Pedagogical models, Pedagogical and active learning methodologies, Digital educational resources, Assessment processes and tools, Using and evaluating discussion forums, Promoting autonomous learning, Assessment security and reliability, Planning and implementing asynchronous classes*, among others.

In addition to training teachers, one of the HEIs reported that it had also provided training for the technical teams supporting the operation of the study programme, seeking to ensure knowledge of the legal context of the DL study programme and the proper operation of the virtual campus and institutional communication aimed at students in digital format.

Coordination and liaison

In addition to adequate pedagogical training, another dimension that was highly emphasised by the HEIs, was the need to hold meetings among teachers to ensure proper coordination and coherence in the development of the various curricular

units in the study programme. In these meetings among teachers, the aim was to ensure proper ownership of the pedagogical model followed in the study programme as well as to articulate the design and preparation of each curricular unit.

> *"In the context of preparation and organisation (...), in addition to the procedures common to any study programme (administrative and pedagogical), specific aspects of the distance learning teaching system were considered. Several meetings were therefore held with the teachers to discuss the following issues: - Presentation and analysis of the Pedagogical Model for Distance Learning in force at [HEI]; - Presentation and analysis of the Learning Contract; (...) - Joint construction of the timetable to be proposed to students, including definition of the date/time of synchronous classes for each curricular unit, the form and date of the assessment moments to be considered in each curricular unit, preparation of the weekly effort map required of the student; (...)"*

> *"Working sessions were held with the teaching staff to address the following issues: 1. Analysis of the institution's Distance Learning Regulations; 2. Consolidation of the specific pedagogical model for the modality implemented at the institution, which establishes the framework for the organisation and operation of the study programmes, which should be followed by the CUs of the study programmes, with the necessary adjustments to the specificity of each CU; 3. Information on existing digital bibliographic resources (repositories, b-On...); 4. Analysis of the specific DL timetables and online (synchronous and asynchronous) and face-to-face teaching components and respective timetables; (...) 9. Analysis and completion of teaching-learning scripts; 10. Analysis of the design and development of Learning Objects (LOs), in interaction between teachers and the technical-pedagogical team."*

> *[There were] "work sessions organised with the study programme teachers to analyse and define the schedules for the synchronous sessions and define the monitoring process."*

In these joint work sessions, there was a clear concern with the necessary articulation of synchronous and asynchronous work with the students, but there was also an attempt to share and discuss the pedagogical options followed in each curricular unit.

> *"Sessions were held with the teachers responsible for the CU before the start of the academic year, to clarify the pedagogical and didactic approach to be considered in each CU."*

> *"Working meetings were held with all the teachers of the study programme to detail and define how it would work, to discuss the link between synchronous and asynchronous sessions, the content and how it would be made available, the different moments of interaction and student monitoring, assessments, aligning strategies, exchanging experiences and to discuss and promote the use of different software in the preparation of the programme materials."*

The importance of this coordination and joint work between teachers being constant throughout the curricular units of the study programme was also highlighted. Some HEIs mentioned holding monitoring meetings of the study programme's scientific committees and planning debriefing meetings with teachers at the end

of the 1st and the 2nd semesters. In some cases, online spaces have been created for communication and sharing between teachers:

> *"An online forum has also been made available to teachers with the aim of sharing information and generating discussion on the issues mentioned above."*

> *"Also noteworthy is the creation of a Pedagogical Support Forum and a Digital Environment Technical Support Forum."*

In addition to the working meetings and coordination between teachers, one of the HEIs mentioned the coordination with the Pedagogical Council to define adjusted timetables, and another emphasised the care taken to ensure prior coordination between services at institutional level:

> *"(...) coordination was established with the different institutional services (academic, financial, technical and library services, as well as the psycho-pedagogical support office) in order to provide distance students with the same type of quality support response that is given to face-to-face students. At an institutional level, coordination was made with the administrative, information systems, and academic services, to guarantee support and accompaniment for students, on the one hand, in the administrative component (application, registration, tuition fees, etc.), on the other hand, in the operational component (software installation, access to the private area, email, attendance records, etc.)."*

Preparation of learning materials and resources

Another aspect that was evident in the work leading to the beginning of a new DL study programme was the care taken to prepare learning resources. The existence of some standardisation in the structure and graphics of the materials and resources to be used by students, as well as in the planning and structuring of assessment and learning activities, is recognised as a factor that promotes the quality of teaching and learning processes.

> *"The creation of a blueprint/template on the CANVAS platform makes it possible to standardise the organisation of the curricular units, giving them their own identity and making it easier for both teachers and students."*

> *"The teaching-learning roadmap is a useful tool, from an operational point of view, which makes it easier for teachers to structure curricular units, since in addition to the usual descriptors for a curricular unit, it also includes the definition of the materials to be used, aligned with the knowledge programme, as well as their pedagogical implementation and assessment criteria;"*

> *"Learning objects are appealing digital educational/training materials, with the greatest possible diversity of media (text, diagrams, graphics, images, videos, audio) and interactive, ensuring the pedagogical exploration of the content (through closed questions - V/F, multiple choice, correspondences, ordering, filling in spaces, games...), with automatic feedback, to guarantee the formative character of the LOs."*

Student preparation

Still in the context of preparing and defining strategies to support the smooth running of DL study programmes, HEIs have shown that they are concerned about preparing students, having organised training activities and created specific support materials for students.

"(...) holding a digital induction workshop for students, creating a Facilitation Guide for students, creating a web page with information on how the study programme works, with emphasis on the schedule of synchronous and asynchronous classes, links to access classes, support contacts and other relevant information."

"Before the start of the teaching component, and in addition to the daily monitoring carried out by the study programme coordinator, sessions were held to familiarise students with the e-learning system, covering pedagogical aspects (Learning Contract, synchronous and asynchronous classes, assessment methodologies, attendance, etc.) and operational aspects (access to Moodle, important contacts, support services, etc.). A space dedicated to study programme coordination has been created on the Moodle platform, to which teachers, students and services have access, and where all the information of a transversal nature is available (dates of assessments, synchronous classes, exams, contact emails, presentation of the study programme and the teaching staff, etc.). Communication channels are set up on this page, in the form of forums, which allow information to be exchanged between the various players (coordination, teachers, students and staff)."

Challenges in the context of implementing new DL study programmes

The HEIs were asked to identify challenges that had arisen in the context of implementing the new study programmes. Several HEIs replied that no unexpected situations had arisen, due to their institutional experience in teaching DL (lifelong learning courses, short study courses, postgraduate study programmes, among others). However, it was possible to identify some situations that were more challenging, with one of the most frequently mentioned aspects being the difficulty teachers and students had in adapting to new working and interaction methods.

"Given the innovation related to this type of teaching, the main challenges relate to the novelty that it still represents, which implies some time to fully master the technical and pedagogical dimensions, on the part of both the teachers and the students."

"Creating a fully efficient virtual learning environment."

"Implementing the pedagogical model was the main challenge, given its specificities compared to face-to-face teaching."

On the other hand, some aspects that characterise and differentiate DL were also identified as challenges, such as the need to prepare all educational materials and resources in advance and the need to guarantee effective distance monitoring of the work carried out by students.

"The challenges were varied: - Making the edited recordings available on time; - Creating and validating the content on MOODLE;"

"Lack of time to prepare the launch (...), which, in a new experience, was very challenging. This situation required an extraordinary effort and commitment from the coordinators, teachers and services, but it was possible to start the study programme, which is running smoothly."

"A major challenge is to monitor feedback from lecturers to students, so that lecturers respond within a maximum of 48 hours."

Previous experience in functioning DL study programmes

Another relevant aspect for the quality of the start of the new DL study programmes was the existence of previous experiences in DL at the institution, in other areas, or in previous versions of these study programmes. The evaluation by teachers, students, and services, of previous experiences has boosted the quality of the practices that have now been implemented.

"This master's degree is the result of the experience acquired by teachers and non-teachers in the various editions of the non-degree postgraduate study programme (...). Therefore, to identify strengths and weaknesses, at the end of each edition a questionnaire was always administered to the participants to evaluate their satisfaction (...). The overall results obtained were used by the coordinating team and teachers to continuously improve teaching practices and make the necessary adaptations in future editions. Analysis of the data from the various editions of the study programme has allowed us to verify that the trainees were very satisfied, congratulating the team on the experience provided and the clarity and conciseness of the materials."

"It is a study programme that already shows maturity (...). It shows a teaching staff that is properly prepared for the way it works. The social dynamics of interaction and collaboration in the development of learning activities, established between students, promote the creation of solid 'online learning communities' which greatly determine the high levels of satisfaction with attending the study programme, and this data is collected annually from students. The care taken to create introductory modules prior to taking the study cycle has proven to be a good practice with students."

4. RELEVANT ISSUES AND EXPERIENCES IN DISTANCE LEARNING

4.1. TRANSFORMATION NOT TRANSLATION: TRANSITIONING HIGHER EDUCATION FROM FACE-TO-FACE TO DISTANCE EDUCATION

Linda Price, Professor of Higher Education, Higher Education Consultant

This chapter is of interest to those in higher education (HE) who are involved in transitioning their programmes of learning from face-to-face provision to distance education. This chapter encompasses key research in the area and my experience in supporting such transitions.

What is distance education?

Unfortunately defining the term 'distance education' (DE) is not straightforward. It is used interchangeably to describe different instantiations. This is further blurred by the use of the terms online and technology enhanced learning (Kirkwood & Price, 2014), that cross-over into interpretations of distance education. Many different formats have emerged under the umbrella term distance education (Richardson, 2000). Some of these encompass making conventional lecture notes and PowerPoint presentations available digitally, supplemented with online video lectures or broadcasts. Other forms make available all the materials digitally with no online support, requiring students to navigate their way through the learning later taking some form of assessment. Some, such as the UK Open University (OUUK), provide a structured path, supported by a range of activities and assessments that guide and scaffold the learning.

Moore (1983) characterised distance education as the *separation* between the teaching and learning acts. This means that all the teaching materials, activities and assessment are devised and made ready *before* students engage in any learning. A key element of distance education is the physical separation by distance and its impact on the interaction between teaching and learning. It is also separated by time in that communication between the student and the teacher are asynchronous in nature. This separation is not solely geographic or temporal, it is also social and personal. Moore (1980, 1983) describes these different aspects of the relationship between teachers and learning as 'dialogue' and 'structure'.

> **Dialogue** describes the degree to which the students and the teacher (student-student and student-teacher) can correspond with each other. This is influenced by the content, learning activities, assessment (Kirkwood & Price, 2008), the teacher's approaches to teaching (Trigwell et al., 1999) and the learner's approaches to learning (Trigwell & Prosser, 1991), the institutional context (Price, 2014) and the medium of communication (Kirkwood & Price, 2016).
>
> **Structure** describes the extent to which the learning outcomes, approaches to teaching, the organisation and nature of the learning, and the assessment are arranged. These need to be prepared for and adapted to the needs and requirements of the *distance* learner (Laurillard, 1993; Rowntree, 1982, 1986, 1995).

In DE the learning design must accommodate a non-contiguous and asynchronous learning environment where learners are geographically dispersed and where the interactions need to be planned and encouraged.

The landscape of higher education

In the past, distinctions between DE students and campus-based students were more obvious as campus-based students typically attended classes and tutorials as part of their learning activities. Comparatively, DE students typically engaged with their learning remotely via correspondence materials. But in recent years many institutions have introduced a dual-mode of course presentation where the same course is offered on campus and by distance.

The offering of campus-based courses in a distance mode became heightened during Covid-19 where institutions had to find ways of educating their students remotely. Many institutions were not ready for such a radical change, and students and staff alike were faced with understanding how to teach and learn remotely. What has emerged is student demand for greater flexibility in the way in which their learning is provided that does not require them to be campus-bound.

The blurring of boundaries between campus-based and non-campus-based students demonstrates a shift in perspectives. For many students the cost of studying in a campus-based course can be prohibitive. The need to have some level of income can often influence students' decisions to study part-time and at a distance in order to make a university education affordable. For others, personal circumstances mean they may not be able to engage in a face-to-face course and they find that a distance education course provides opportunities not previously available. Those whose jobs require considerable travel or residency in another country have also benefited from the flexibility of distance education.

However, designing DE is neither simple nor inexpensive. Considerable time is required to develop a good quality DE course. It also requires a significant understanding of the learning process and how to design a course that engages students in active learning. Talib et al (2021) performed a systematic review on research into the effects of Covid-19 on HE and the move to DE modes. Findings showed that students had difficulty in interpreting some of the learning requirements due to ambiguities in some of the online materials. Clarifying these ambiguities becomes more difficult in a DE context. Although technology has been a great enabler in distance education, improvements in the quality of student learning depend upon how technology is incorporated into the overall design of the course (Abu Talib et al., 2021). Fundamentally it is the structuring of the course that provides successful retention of students.

For many academics who have taught face-to-face, they begin designing their course by preparing the content, often in the form of lectures supported by tutorials and/or lab sessions. Assessment may not be considered or developed until the course has commenced or in the case of exam-focused assessment, at the end of the course. If the content and the assessment are constructed separately, they may not fully align with the stated course learning outcomes. For those academics then faced with preparing their course in a distance learning format they similarly begin with making the content available digitally, either as PowerPoint presentations or

video lectures, then building what other elements they can into a distance/online mode. However, translating what works in a face-to-face context into a distance and online version rarely works. What is often under-appreciated is the role of dialogue in helping students' understandings and interactions with their fellow students in peer-to-peer learning situations. These activities need to be built into a distance education programme as they are important underpinnings of learning. The crux of the problem is that a face-to-face course needs to be transformed to work effectively in a DE environment. There are two main issues to address:

1) preparing *all* the teaching and learning materials in advance, and,
2) structuring the information in an accessible manner for the distance student.

Even within a DE institution this can be problematic. While at the OUUK, I investigated students' perceptions of a good DE course. This was based on annual quantitative and qualitative course review data. There were five key elements that students considered important:

- providing clear information
- providing clear learning outcomes
- providing good assessment design and feedback
- having good website navigation
- having appropriate course workload

These elements are discussed in relation to pragmatic issues in preparing DE.

Providing Clear Information

The way in which information is presented to students can have an impact on their learning and this impacts their engagement (Kember & Leung, 2006). My research comparing highly-rated courses with lower-rated courses showed that the structure and organisation of materials was paramount. The most important information to provide to the student is a guide or a map of how to navigate the course. This enables them to get an overview of the expectations of the course and to plan. This is worth considering in terms of pacing and workload, so building in some rest periods allows students who are juggling commitments to catch up. Below is a rudimentary example of guide or map, for a 30-credit curricular unit run over 30 weeks. Its value lies in the overview and structure it provides for the student.

TABLE 1. MODULE GUIDE/MAP

BLOCK 1 Module Intro and Group Work	**BLOCK 2** HR Law and Good Practice	**BLOCK 3** Conflict De-escalation	**BLOCK 4** Informal Disciplinary Procedures	**BLOCK 5** Formal Disciplinary Procedures
W1 Introductory materials *(website)*	**W6** Read Chapter 4 on Legislation *(Module Text)*	**W11** Implementing Conflict Training	**W16** Complete online Activities *(website* week16*)*	**W21** Read materials on HR disciplinary policy *(Module Text)*
W2 Intro to Group Work	**W7** Case Law Examples *(website)*	**W12** Finding Online Resources for Staff *(Library Website)*	**W17** Develop group strategy on HR within your group	**W22** Develop group strategy for disciplinary procedures
W3 Complete Sample Group Activity 1	**W8** *Role-play* Conflict within Group	**W13** Prepare and engage with HR Role Play	**W18** Devise Policy for HR based on strategy	**W23** Devise and produce implementation policy
W4 Rest Week	**W9** Tutorial Reflecting on *Role-play (access online portal)*	**W14** Rest Week	**W19** Develop a professional development plan to implement the policy	**W24** Rest Week
W5 **Assignment 1** (*learning objectives* KU1, CS1, KS1)	**W10** **Assignment 2** (*learning objectives* KU1, CS1, KS1)	**W15** **Assignment 3** (*learning objectives* KU1, CS2, KS1)	**W20** **Assignment 4** (*learning objectives* KU2, CS2, KS1, PPS1, PPS2)	**W25** **Assignment 5** (*learning objectives* KU1, KU2, CS1, KS2, PPS2, PPS3)

Table 1 illustrates a module map/guide that illustrates what topics are covered and how they are scheduled. It also shows assignments dates and importantly the rest periods. In designing information here are some key things to promote.

1) **Use clear and appropriate language**

   Use consistent labelling of activities and content. Consider the needs of students with diverse backgrounds, building to the lowest common denominator.

2) **Use terminology consistently, within and between modules in a course**

   Use the same naming convention to describe related learning content. This is beneficial to all the students especially those who use screen reader technologies.

3) **Provide precise information on content/activity location**

   Provide clear instructions on where students can find the learning content or activity, digital or otherwise.

Clear learning outcomes

For many colleagues in face-to-face institutions, assessment is sometimes considered after the content has been established. However, what is *assessed* is actually what the students will attend to. Assessment can be considered as the '*de facto* curriculum' (Rowntree, 1987). Hence there is a significant and highly influential link between assessment and student learning that means students focus on the assessment requirements rather than the curriculum as a whole (Boud, 1995; Brown, 1997; Brown & Knight, 1994; Ramsden, 1992; Snyder, 1971; Watkins et al., 2005). Hence it is important to determine the learning outcomes in tandem with the assessment to ensure they are aligned. This is what is known as constructive alignment, where the intended learning outcomes (LO) are defined before study commences (Biggs & Tang, 2014).

LO should be action-focused, learner-focused, and considerate of the learner's existing knowledge. It is important to distinguish between knowledge development and changes in behaviour. This allows for a better mapping between how to enable students to reach the LO through the module resources and activities. In writing LO's it is helpful to follow the SMART guidelines, that is, LOs that are Specific, Measurable, Achievable, Relevant, and Time-bound. Below is an example of some learning outcomes for a fictitious module in a Human Resources Professional Course.

TABLE 2. LEARNING OUTCOMES EXAMPLE FOR A HUMAN RESOURCES MODULE

KNOWLEDGE AND UNDERSTANDING	
KU1	Identify defining competencies, including current issues relating to the workplace
KU2	Demonstrate an understanding of a range of essential theories, principles, and concepts at the forefront of the Human Resources
COGNITIVE SKILLS	
CS1	Gather, evaluate, and interpret Human Resources information and data relevant to the workplace
CS2	Develop expertise in the business environment and business issues relating to Human Resources
KEY SKILLS	
KS1	Use appropriate methods and techniques to effectively communicate routine information to specialist and non-specialist audiences.
KS2	Find, use, create and share data, information and knowledge using digital practices.
PRACTICAL AND/OR PROFESSIONAL SKILLS	
PPS1	Use the workplace to identify, learn, practice, and reflect upon agreed Human Resources competencies.
PPS2	Record, analyse and review ongoing learning needs to maintain and develop agreed Human Resources competencies.
PPS3	Develop an awareness of practical, professional, and business/commercial issues relevant to Human Resources in the business environment.

Good assessment design and feedback

When designing the assessment, it is important to map the requirements against the learning outcomes (see **figure 2**). This ensures that the assessment is reflecting the aims of the module as students pay considerable attention to the assessment. It is also important to consider the expectations of the sector that the students are likely to work in. The career needs of students may have changed over the years and for them to be successful in their chosen career they will need to be active, autonomous, lifelong learners (Kirkwood & Price, 2005). Having increased knowledge is not the merits of a modern university education: information is readily available on the internet. What is required is *discernment*. Students need to be able to discern whether the information they have found is valuable and reliable, and this requires skill and practice. It also requires skill and understanding about when and how to apply the knowledge.

We need to build these skills into the tasks we set students, so they can develop *discernment* skills. In effect, students will be engaged in active learning, where they are able to reflect, act upon and construct knowledge, not merely absorb it (Hartikainen et al., 2019). This promotes more desirable approaches to learning in students, which in turn are linked with better student learning outcomes (Richardson, 1995, 2000; Richardson & Remedios, 2014).

Feedback is another important component of good assessment. However, the feedback that students receive depends upon the teacher's beliefs about the purpose of assessment (DeLuca et al., 2018). Simply put, is it *assessment of learning* or *assessment for learning*? These are not the same thing and the kind of feedback that a student receives is dependent upon this theoretical positioning. Assessment of learning is a measurement of what the student has achieved and is grounded in past performance. Associated feedback tends to focus on the grade and whether the answers were correct or not. Comparatively, *assessment for learning* is a powerful way of improving students' learning (Broadfoot et al., 1999). It supports the development of the student by indicating how future performance could be improved (Wiliam, 2011). It concentrates on the "what, how and why" of a problem rather than what was wrong with the answer. Feedback is presented in a clear and comprehensive manner to scaffold the learning. Hence the design of the assessment is an integral part of the overall design of the course (Wiliam, 2011).

Assessment and good feedback are an integral part of the learning design of courses at the OUUK. Typically, teachers are trained in how to write good feedback to students and that feedback is regularly monitored by a senior member of staff. They then provide advice to the teacher on how they can improve their feedback to students. This is a fundamental underpinning of distance education: it helps to keep the students on track and enables the teacher to support students on their learning journey. This approach has given the OUUK recognition as a student-centred institution that receives high quality feedback on their learners' experiences. It was awarded TEF (Teaching Excellence Framework) Gold status in 2023, (TEF is the UK national grading standard for teaching excellence in higher education). So, their techniques offer the sector some good examples of practice.

Good website navigation

Good website navigation enables students to effectively engage with their learning. However, the overriding factor in supporting good student learning experiences is appropriate VLE (Virtual Learning Environment) design (Hsu et al., 2009). The following set of VLE learning design principles are suggested as guidance for developing distance education online (developed at Kingston University by Price, Casanova and Orwell, 2016). These have been informed by several sources: 'Universal Design for Learning (UDL) (Wakefield, 2011), the Seven Principles for Good Practice in Undergraduate Education (Chickering & Gamson, 1987; Chickering & Ehrmann, 1996), the UK Professional Standards Framework (UKPSF), Quality Matters Rubric Standards[1] and evidence-base data collected from student and staff focus groups at Kingston University. They attend to equality, usability, accessibility, and wider international research on good practice.

Learning Design Principles

→ *LDP1 Design that is universal*

All learners must have comparable learning opportunities whatever their cultural, economic, or physical/mental situation. Alternative paths should be provided to enable similar learning opportunities.

Guidelines

Text may be the default way of presenting information, visual, audio and multimedia should be encouraged.

The use of colours should foster high contrast between the background and text.

Digital resources should be as small as possible to allow for easier downloading by students.

Relevant information and resources should be emphasised or summarised.

English should be written without acronyms or cultural references.

→ *LDP2 Enable scaffolding and links with prior knowledge*

Contextualisation and links with prior knowledge should be made.

Guidelines

Activities should be contextualised, making reference to learning outcomes and expectations from the learner.

Activities should ensure that students reflect on what they know about the topic and what they learned after the activity.

Links/references should be made between modules from within the same course.

Practical examples of how the topic will inform further topics or modules should be provided.

A coherent structure/navigation should signpost where the topic/module sits within the overall course and how each online activity is related.

1 https://www.qualitymatters.org/qa-resources/rubric-standards/higher-ed-publisher-rubric

→ *LDP3 Resources and materials with which all learners can interact*

Online learning resources should provide opportunities for interaction with materials and activities, where students are enabled to read, comment or question topics.

Guidelines

The use of online text, images, sound, and video must be configurable for students who may have additional requirements.

Provide good resolution images that do not infringe copyright. An alternative text should also be provided that explains what the image represents.

Resources that pose serious accessibility problems should be avoided. In exceptional circumstances alternatives should be provided.

More than one resource/material for each activity should be provided to support varying ways students approach learning.

→ *LDP4 Provide options for expression, communication and participation*

Online learning should promote active learning where students can discuss, critique, reflect, produce, investigate and share new resources.

Guidelines

Learning activities should combine passive with active tasks, directing students how to engage with resources.

Learners should be encouraged to find new resources and information and share them with their learning community.

Learners should be encouraged to engage with fellow learners' content, promoting a sense of community.

Online participation should be encouraged by the lecturer including other forms of assessment or recognition.

Learners should be encouraged to suggest new activities, resources or to alternative ways to learn, provided the learning outcomes are met.

→ *LDP5 Provide options for learners' autonomy and self-regulation*

Develop learners' intrinsic abilities to self-regulate their own learning and motivations.

Guidelines

Self-assessment tests, quizzes or questions should be provided after each topic to ensure that students receive feedback on their learning.

Learners should be encouraged to reflect on their learning as part of activities and assessment.

Learners should be encouraged to compare their learning with peers.

A calendar system with relevant dates and deadlines should be available from course/module commencement to support students in managing their learning.

Learning analytics should be provided for each student so that s/he can compare her/his progress with their learning community.

→ *LDP6 Provide content, activities and assessment that are relevant*

Provide alternative ways to stimulate learners' interest in ways that value and support individual differences and stimulate engagement.

Guidelines

More relevant information and resources should be emphasised or summarised.

Activities should be contextualised, making reference to what learning outcomes are being addressed and what is expected from the learner.

Practical examples should be provided of how the topic will inform further topics or modules.

'Real life' examples should be provided to ensure relevance and authenticity of the topic covered.

Assessment criteria and rubrics should be linked with the learning outcomes to provide more relevant and meaningful feedback.

→ *LDP7 Provide multiple means of engagement with content and resources*

Students should be encouraged to communicate and collaborate within their learning community. Learning designs should embrace different learners' preferences by providing alternatives for expressing, communicating, and participating.

Guidelines

Learning designs should make use of visual, audio and video files.

Provide small activities for students to undertake in short bursts, such as watching videos, reading a small text, filling-in a quiz, or discussing a topic.

Providing multiple means of engagement with the module by capturing the most important part of the lecture in a small video, or by organising alternative activities to the lecture.

Designs should consider how physical and virtual learning opportunities can be integrated.

→ *LDP8 Coherent formative and summative assessment opportunities are provided*

Student assessment, both summative and formative, should be connected to each other and with the learning outcomes.

Guidelines

Formative assessments should be used to scaffold and support students in their summative assessments. Feedback should inform students' future summative assessments.

Formative assessments should be used as building blocks for summative work (essay plan, literature synthesis, and interim presentation).

Formative assessments should be used early in the module to allow students to gauge progress and take remedial action.

Explicit alignment between each summative assessment and the learning outcome should be provided.

Appropriate measures should be in place to prevent impersonation and/or plagiarism.

→ *LDP9 Feedback is coherent and relevant*

Feedback should be provided in a timely and effective manner and should guide how the student can improve future performances.

Guidelines

Feedback should be prompt and the explicit timeframe agreed with learners.

Feedback should be as simple and concise so students can grasp the information provided.

Feedback should be relevant to the learner and related to the learning outcome.

Feedback should encompass what has been achieved by the student (feedback) and what can be done to improve the quality of their work in the future (feedforward).

→ *LDP10 Clarity of roles and assessment expectations*

Information about assessment, the marking criteria, and feedback should be readily available on the VLE as it enables the opportunity to provide dependable and accessible clarification of expectations and roles.

Guidelines

Each module should include a clear statement of the learning outcomes.

Roles, expectations, and timeframes of lecturer's formal and informal feedback should be provided at the commencement of the module.

A calendar with dates of assignments and assessment activities should be available for students from commencement of the module.

Marking criteria should be presented online and discussed during the first week of the module.

Learners' understanding of the assessment and marking criteria should be explored in order to ensure they understand the requirements.

→ *LDP11 Communications are simple and structured*

Different levels of headings should be used to structure the information for clarity and accessibility. This should be combined with a mixture of text and visual representations to provide a more accessible content.

Guidelines

Headings should be used as means to separate different sections of text or different tasks.

Bullet points should be used to list items or clarify complex information.

Be consistent between modules in relation to design, content organisation, activities and tools used.

Provide a coherent structure/map navigation signposting where the topic/module sits within the programme.

Relevant information and resources should be emphasised or summarised through redundancy or coloured boxes.

→ *LDP12 Learning materials and activities are evaluated and reused when possible*

Regularly evaluate the quality and appropriateness of each learning activity/material with respect to its scientific accuracy, language, technical infrastructure, and suitability for the learning process. Resources should be reused to ensure sustainability and made available for other modules.

Guidelines

Learning materials and activities should be regularly evaluated with respect to their scientific accuracy, language, technical infrastructure, accessibility, and suitability.

Learning materials and activities should be reusable in other modules and learning contexts.

Learning materials and activities should not be driven by aesthetics but by the value they add to the learning process.

Learning materials should be provided in the most sustainable format.

Copyright and Intellectual Property should be respected when choosing materials.

Appropriate course workload

Students often complain about having a demanding workload, so it is important to understand issues relating to workload as they influence the quality of student learning (Kyndt et al., 2011, 2014). However, perceptions about workload are not straightforward. Workload, as defined by teachers and curriculum designers, is an estimate of the number of hours or credits that comprise a course or module. It cannot be assumed this is correctly calculated. Assumptions that all students will require the same study time cannot be taken for granted either (Kyndt et al 2014).

Students' perceptions of workload are known to be different. However, research has shown that these perceptions of workload are more broadly influenced by the teaching and learning environment (Kember & Leung, 1998; Kyndt et al., 2011). Paradoxically, demanding study requirements do not translate into perceptions of high workload (Kember & Leung, 2006). Thus, the relationship between subjective and objective perceptions of workload would appear irrational (Kyndt et al., 2014). Research has also shown that while having enough time to study is an important condition for learning, an infinite amount of time does not guarantee it.

In considering workload it is important to distinguish between needed time and time investment. Marsh (2001) provides a useful distinction between useful and 'bad' workload, where useful workload is that which aids understanding, and bad workload is considered as the total number of hours minus the good hours. Thus, students make qualitative judgements of workload based on perception of its value to their learning. The Course Experience Questionnaire (CEQ) provides a useful tool for assessing students' perceptions of required study time (Ramsden, 1991; Wilson, Lizzio, & Ramsden, 1997). One important influence on students' perceptions of a practicable workload is the number of learning and assessment activities. Hence the design of the course or module influences students' perceptions of workload (Kyndt et al., 2014).

Concluding remarks

Importantly, the transition from a face-to-face campus-based course to a distance education online course requires transformation (Carswell, 1998; Kirkwood & Price, 2006; Petre et al., 1998; Thomas et al., 1998). A simple translation from an existing face-to-face course to a distance format is unlikely to provide the supportive environment needed to sustain distance education students throughout their programme of study.

While there are different interpretations of distance education, an important distinction is the separation of the teaching and learning acts. This underpins the need to understand the separation of the activities and the preparation of all aspects of the course before students begin studying. It also underscores the need to understand and plan for all the activities that take place in campus-based study situations, such as the student-student interactions and peer-group learning that take place outside of scheduled activities. These dialogues are fundamentally important and need to be planned for in distance education learning designs.

A recurrent theme has been the fundamental influence of the design of the course on students' perceptions. Clarity and structure are important factors that influence the student's ability to understand the demands of the course and in their perceptions of workload, both of which influence how they approach their learning. This also extends to the learning outcomes and assessment. These too need to be explicitly linked and clearly articulated for students to attain the desired learning outcomes. This underscores the importance of achieving constructive alignment in the course. The learning design also needs to attend to the purpose of assessment, that is, designing assessment for learning, as opposed to assessment of learning. Assessment for learning provides an environment where feedback provides opportunities for improvement in future performance, and hence an affirmative learning situation.

It has been my experience in higher education that most institutions do not invest significantly enough in adequate staff development. Institutions need to provide appropriate staff development on how to design and construct high quality distance education. Many staff are under-prepared for transitioning their face-to-face course and find constructing DE challenging. It has also been my experience that some staff can be reluctant to engage in staff development activities, despite the guidance it might provide in developing distance education courses. If the transitioning of face-to-face courses to high quality distance education courses is to be achieved, both the institution and the teachers need to work together and invest in development of staff in the aspiration of this aim.

4.2. *"AS IS OR NOT AS IS"*?

THAT WAS THE QUESTION ABOUT THE EDUCATIONAL MODEL WHEN THE UNIVERSITAT OBERTA DE CATALUNYA CHANGED THE LEARNING MANAGEMENT SYSTEM

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Teresa Guasch, *Vice-president for Teaching and Learning, Universitat Oberta de Catalunya*

Scenario: the Universitat Oberta de Catalunya

The title of this chapter draws inspiration from one of the most iconic theatrical fragments in history, serving as a metaphor for the momentous decision undertaken by the Universitat Oberta de Catalunya (UOC) when transitioning from its own Learning Management System (LMS) towards a market one.

Likewise, the five Hamletian acts serve as inspiration to organise the structure of this content, which begins setting the context. In 1995, the UOC entered the scene of the higher education (HE) system as the first online university in the world, thanks to the momentum of the Government of Catalonia.

It was established as an institution of non-face-to-face HE, managed by a private foundation, but with a public mandate and most of the public participation. Led by Rector Gabriel Ferrater and pioneering the nascent internet, the UOC's purpose was not to be another distance university in the system, but to be the first university without distances.

Nearly three decades later, the UOC has graduated 113,500 students from 750 educational programmes. In the first half of the 2023-2024 academic year, 87,150 students are actively engaged in their learning journey, guided by a faculty of 7,283 teachers (including faculty, collaborating instructors, and tutors), across 11,814 virtual classes.

Recognised among the top 10 Spanish state universities by Times Higher Education World University Ranking, the UOC also stands as the premier online university in Latin America and ranks among the top 150 young universities in the world (Times Higher Education, 2024).

As a pioneer and expert in e-learning, the UOC's core value proposition is to offer lifelong education. Its mission as a globally connected, digitally-native, and publicly mandated institution is to provide HE access to all qualified individuals without limitations (Generalitat de Catalunya, 1995). To do this, it generates knowledge by focusing research on the interaction between technology and human and social sciences.

First act: a singular educational model

The hallmark of the UOC lies in its innovative educational model. It was designed to meet the lifelong learning needs of individuals, leveraging the full potential of the internet and digital technologies to learn in a flexible environment.

The teaching and learning process, based mainly on asynchronous and written communication, with constant teaching accompaniment through continuous formative assessment, distinguishes the UOC.

It places the student at the centre, provides the necessary learning resources, and seeks a constant improvement of his/her competencies through problem-solving, project development, joint product creation, discussion, and inquiry with the teaching team and the rest of the students (Figure 1).

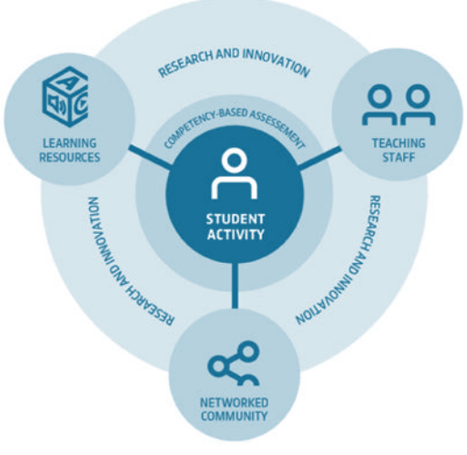

Figure 1. **Educational model (Universitat Oberta de Catalunya, 2023).**

This model's success has enabled the UOC to become the largest university in Catalonia, and the second-largest in the Spanish system in terms of students with disabilities: 2,346 with an official disability certificate 33% or higher (Institut d'Estadística de Catalunya, 2024). It breaks the space/time boundaries, ensuring accessibility and enabling students to seamlessly integrate academic pursuits with the demands of daily life.

Second act: Transformation in the technology environment

The technology available at the end of the last century allowed the UOC to democratise access to quality higher education, where merit was the sole criterion. At those beginnings, there were no pre-existing, fully-developed LMS solutions available, and the entire architecture and technology, and service infrastructure of an online university had to be built internally: the virtual courses, a digital library, a complex management system (ranging from the registration process to obtaining the degree) and even a virtual socialisation space. Somehow, the UOC pioneered the concept of an LMS.

Over the years, as the number of students and programmes increased, investments in technology increased, yet it became evident that external LMS providers were outpacing the UOC in incorporating new features (Figure 2). Continuing with the existing environment would have hindered competitiveness and innovation. The UOC's core focus is on teaching and research, not development of IT solutions.

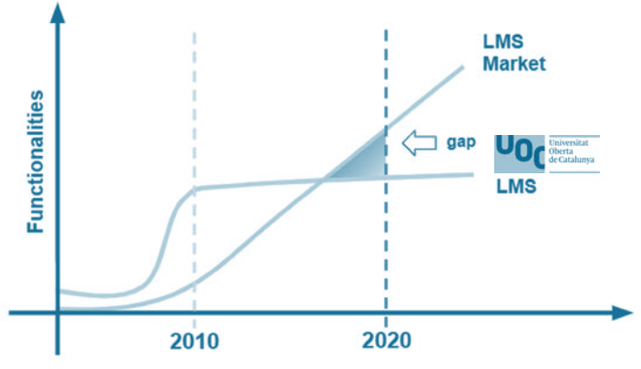

Figure 2. **The gap caused by a loss of technological competitiveness.**

Following a comprehensive benchmarking analysis initiated in 2018, the decision was made to transition to Canvas (by Instructure) from the 2020-2021 academic year onwards.

As our Rector Fitó said, "technology is not transformative on its own, but rather the use of it" (UOC, 2023), therefore the transition aimed to empower educators to leverage Canvas constructively for pedagogical innovation. The benefits included agility in incorporating new features, collaborative tools, streamlined assessment processes, support for video and other multimedia formats, alternative assessment methods, competency visualisation, learning analytics, and mobile app usability for both students and educators.

Thus, the transition marked the evolution from an enabling technology to a technology with transformative potential, ensuring the university's continued growth in quantitative and especially qualitative terms.

Third act: Technological paradigm shift, beyond pedagogy

Internally, the migration to the new LMS was considered a significant shift, necessitating the retention of the existing educational model in the short term while enabling future adaptability. Operationally, the project was executed as an AS IS process map, aiming to replicate the conventional classroom experience as closely as possible.

Currently, the UOC is concluding the implementation of Canvas and, concurrently, initiating the "TO BE" process to accommodate the evolving educational model. In pursuit of continuous improvement, aspects essential to flexibly respond to the needs of current and upcoming cohorts of students and educators are being reassessed and redesigned. The new virtual environment is designed with user-centric methodologies, which reduces the time to adapt to the educational model, ensures a better experience in the teaching and learning processes, and guides the entire organisation towards delivering a satisfying learning experience.

Four major benefits guided the transition:

- **increased sustainability** and scalability from the previous campus,
- the manufacturer's **guarantee** of continuous improvement, with updates every four weeks,
- data and process **interoperability**,
- **focus** on the value proposition and the differential factors of the UOC's education model.

This approach aims to enhance customization in educational programmes by creating adaptive, inclusive, and competitive learning pathways. Concurrently, the introduction of a new LMS is anticipated to facilitate the integration of research insights into online education, thereby augmenting research productivity within the teaching framework of the UOC. This integration is expected to contribute significantly to the evolution of the UOC's pedagogical model.

In the first place, a learning analytics project has already been developed. The project provides educators, programme directors, and vice-deans for teaching-learning with access to a real-time data dashboard. This dashboard tracks activities in virtual courses, allowing for immediate academic decision-making without the need to wait until the end of the academic semester (Figure 3). This tool empowers faculty to formulate pertinent questions, thereby refining their pedagogical strategies.

Figure 3. **Screenshot of the Classroom Activity Tracking Report dashboard.**

Fourth act: the change management

Regarding the implementation of the new classroom environment, the first semester of the 2021-2022 academic year marked the beginning of a pilot project within the UOC Professional Courses (CP) of continuous training. This initiative expanded to the Professional Training (FP) courses in the second semester, impacting 2,300 students.

Following the positive evaluation of both pilots, the following year, 2022-2023, began the transition to Canvas of the official degree classrooms of some master's degrees, bachelor programmes and specialisation courses. Although the initial goal was to complete 25% of the implementation project by the end of that academic year, delays in automating student assignment systems to classrooms required a six-month postponement in project progression.

The significant transition to Canvas took place in the first half of the 2023-2024 academic year, with over 3,600 courses and 6.000 classrooms adopting this new learning environment. Currently, the transition of classroom environments for university access courses for individuals over 25 years of age, certain extinguishing study plans, and open programmes, remain pending (Figure 4).

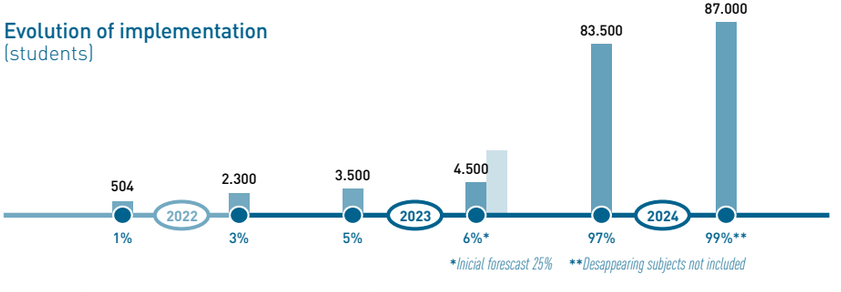

Figure 4. **Evolution of the implementation of Canvas classrooms according to the number of students.**

The success of this project can be attributed to the involvement of an interdisciplinary team, comprising over a hundred professionals from various departments within the institution.

The governance structure of this project was strategically designed to ensure efficiency and effectiveness. The oversight of the LMS programme was entrusted to the LMS programme Committee. This committee received sponsorship and guidance from the former Vice President of Competitiveness and Employability, who currently is the Rector of the UOC. The Vice President's role included active participation in meetings focused on the implementation process and strategic follow-ups. Further, the operational aspects were managed by two integral committees, functioning in tandem:

› ***Project Management Office*** (PMO), led by a programme owner in the Technology area, was in charge of coordinating 23 integration and set-up subprojects, with seven external suppliers and 15 internal professionals from five different departments.

› ***Change Management Office*** (CMO), led by a coordinator in the eLearning Innovation Center, was responsible for driving the mobilisation, communication, and training of faculty and management teams, ensuring a smooth transition to the new system.

The methodology adopted for this work was systematically organised through 'vertical' working groups. These groups are detailed in **Figure 5** and respond to a RACI matrix. This matrix was instrumental in delineating responsibilities, clarifying task ownership, and outlining the necessary consultative and informative processes to stakeholders at every stage of the project.

<table>
<tr><td>Users/ Campus</td><td>Spaces Management & assignments</td><td>Assessment</td><td>Student file</td><td>Reviews & allegations</td><td rowspan="2">FP & CP</td></tr>
<tr><td>Teaching plan</td><td>Permit model</td><td>Learning resources</td><td>Improvement management</td><td>Data</td></tr>
<tr><td>Interoperabitity platform</td><td>Migration</td><td>Mentoring</td><td>Architecture</td><td>Learning Tools</td><td rowspan="2">Virtual classroom design</td></tr>
<tr><td>Comunication</td><td>Supporting circuits</td><td>Tests</td><td>Training</td><td>Multilingual classroom</td></tr>
</table>

Figure 5. **Work verticals of the LMS implementation project in the UOC.**

Each subproject has defined quantitative indicators on the degree of compliance, which are regularly reported to programme committees to make evidence-based decisions.

A notable example of this approach was in the 'Migration' vertical, where a specific line of work focused on the curation of content for the transition from active classrooms to the new Canvas platform. This process, initially not considered in the project's ideation phase, later proved essential in supporting faculty for the new academic year. The project team also had to navigate challenges such as providing a multilingual classroom solution that, while not fully aligning with teacher expectations, managed to deliver a satisfactory student experience.

Fifth act: *adapting to the new environment towards innovation*

The eLearning Innovation Center (eLinC) played a pivotal role in this transition. As the department responsible for evolving the educational model, eLinC is concerned with the triangular analysis of teaching and learning processes. This includes stimulating innovation and transferring results to virtual classrooms, as well as supporting faculty throughout the teaching process. The collaborative efforts and expertise of the faculty were critical in this process.

The strategy to support all personnel through training and communication was central to the project's success. This strategy was built upon eight principles: scalability, transparency, risk minimisation, modularity, flexibility, systematisation, and continuity.

The training plan was conducted in virtual classrooms differentiated by language and role (faculty, collaborating faculty, tutors, and management), with training modules (equivalent to 0.5 ECTS) following UOC-style, but designed as self-training to make it sustainable and scalable.

Each teacher was also provided with a personal experimentation classroom, and practical webinars were held for methodological support on specific topics (assessment, multilingual classroom editing, working groups, doubt resolution), synchronously for an hour and a half, with limited capacity.

In parallel, the communication plan was carried out, led by the area of Academic Services, and aimed at three differentiated audiences: new students, current students, and faculty. The master lines of communication were maximum customization and transparency, active listening of needs to adapt resources and information, prioritisation of audiovisual and graphics resources, and a 360º vision to use the most appropriate channel based on the time and need.

For example, Canvas Impact was used for high-segmentation campaigns, with contextualised classroom messaging, and daily pills were published in video format to explain the basic functionalities of the new environment. All material was integrated into one site for easy reference.

In total, 381 faculty and about 5000 collaborating teachers were accompanied in this change. A survey conducted in November 2023 showed that the majority of the faculty who had migrated to Canvas felt neutral or satisfied with the change. It also highlighted the need for ongoing operational support on the new LMS, beyond the preparation of the start of the semester, and a more personalised approach.

In the survey launched one month later to the student community, 46% of participants (3,228 students) answered they were very or fully satisfied with the new classrooms. New licensees showed superior satisfaction with Canvas (scored 4 out of 5), while those who experienced older classrooms had a satisfaction score of 3.14.

These results underscore UOC's commitment to remaining a leader in online education, making the most of pedagogical benefits in a new environment with greater technological benefits and greater possibilities for experimentation and adoption.

As illustrated in **Figure 6**, the expected innovation cycle post-LMS adoption includes continuous developments from the manufacturer, an internal analysis service for adopting new functionalities, and a focus on enhancing the university's educational model.

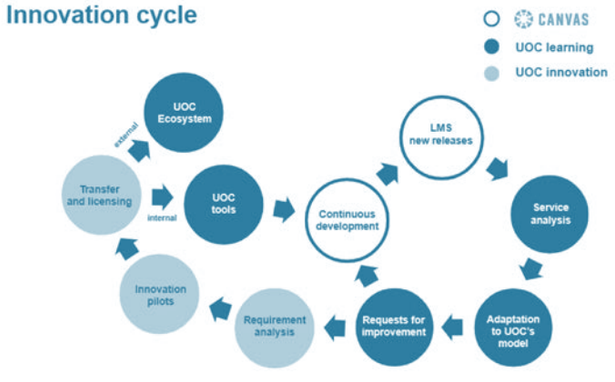

Figure 6. **Expected innovation cycle after new LMS adoption (in-house document).**

The most disruptive solutions are expected to be derived from innovation pilots that will be driven by the eLinC together with the faculty, based on the needs detected and the proposals of the different actors of the university. The objective will be to transfer, internally and externally, in an agile, sustainable, and scalable manner.

The adoption of the new LMS is thus seen not just as a technological upgrade, but as a catalyst for transforming teaching innovation dynamics and scaling the university's educational model evolution. A model that also faces new challenges with the integration of generative artificial intelligence, which impacts teachers' and students' roles and will change Figure 1 in the following months.

In summary, the UOC's journey with the new LMS encapsulates a continuous process of improvement and a commitment to shape the future of online higher education. Now begins the time of "TO BE" towards the future, which underscores the institution's solid dedication to excellence and innovation in education.

4.3. ASSESSING LEARNER PROGRESS IN THE DISTANCE LEARNING ENVIRONMENT

Susan Zvacek, Consultant (*CollegeTeachingCoach.com*), specializing in distance education, U.S.A.

If we were to compress the instructional design process to a few essential steps, it could be contained within three questions:

1. What skills should students acquire by participating in this instruction?
2. What evidence would we look for that students are making meaningful progress toward (or have mastered) that goal?
3. What activities could they engage in to advance toward this mastery?

The course designer's role, then, is to establish appropriate learning conditions in response to the answers and for this chapter the focus will be on Question 2. Once we have identified what constitutes proficiency **(Question 1)**, we can then consider how to measure student progress toward it, the kind of feedback and guidance we will provide to help them get there, and the evidence of learning that will result from a demonstration of their newly acquired skills. Although this chapter focuses on assessment in distance education, much of the discussion is not exclusive to distance education. Just as exemplary distance teaching closely resembles our best models of face-to-face teaching, assessing student achievement has a core of good practice that remains constant across a multitude of teaching and learning configurations.

Assessment considerations

Formative and summative

When developing a course, unit, or module, assessment activities should be incorporated throughout the instruction, typically referred to as formative assessment. This can include any activity offering the opportunity to practice new skills and get feedback on one's performance. This feedback is a requisite component of formative activities, and it allows learners to refine (i.e., "form") their efforts toward accomplishing the goal while, at the same time, teachers can use the results of formative assessments to provide customised assistance when needed. Formative data can also help guide course revisions if, for example, many students misunderstand a task or score badly on one specific concept.

One advantage of this approach is that misconceptions held by learners that might interfere with later progress are identified and addressed before they become obstacles to further learning. A natural advantage for the instructor is that the dreaded "crunch" of grading when assessments occur in large blocks is avoided; ongoing assessment provides information on student progress in smaller increments over the course of a unit, training module, or academic semester.

Summative assessments are final-outcomes-focused and emphasise the learner's accomplishments or skills at the end of a course or module. Standardised exams often fall into this category because they provide a snapshot of knowledge and skills from which the only feedback is a numeric score and possibly percentile rank.

Summative assessments are typically intended for administrative purposes such as assigning grades, reporting the success or failure of specific programmes, awarding a certificate or licence, or compiling evidence of programme quality for accreditation purposes. By definition, summative assessments are almost always comprehensive, measuring the mastery of a specified body of knowledge or completed curricular unit.

The affective domain

The negative effects of anxiety on student performance have been long recognised, although insufficient research has been done to study its influence on distant students. In early-Internet days, there was concern that the unfamiliarity of the online environment would confound test results, but there has been an increase in reports of students preferring the use of online exams when given a choice (e.g., Keremedchiev & Peneva, 2017; Postal, 2015). There are several possible reasons for these results, including the attractiveness of taking an exam in a comfortable setting (e.g., at home) at a time of one's choosing, fewer stress-producing distractions compared to a crowded classroom, or the familiarity of using the computer for course-related activities. As testing applications and learning management systems continue to improve in reliability and interface design these effects are likely to persist if not increase.

Feedback

With distance education courses it can be helpful (and efficient) to rely on digital technologies to provide feedback. Text-based assignments can be annotated or commented on directly in the document and, in most systems, this can be done within the learning management system, eliminating the need to download papers, mark them up, and re-upload them. Audio comments are also helpful and students find them more satisfying than text-based feedback (Voelkel & Mello, 2014). If the learning management system does not have this functionality already in place, third-party applications such as ScreenPal (*https://screenpal.com/*) make it easy to provide audio or video comments.

In a distance learning environment, it may be useful to reinforce understanding by providing general feedback and review to the entire group in a videoconference setting during which students can ask questions. Individualised feedback can then be provided later. Finally, although dozens of studies and essays suggest that students pay little attention to feedback (e.g., Gooblar, 2015; Louden, 2017), research on students at a distance has confirmed that useful feedback (especially when presented using video) is an important component of the instructor's social presence (Glazier, 2016; Martin & Bolliger, 2018).

Assessment Strategies

Much of this chapter's content could be applied to any instructional setting, whether online, face-to-face, or something in between. A few examples are provided, however, that are especially well-suited to distance education environments.

Online Quizzes and Tests

Online quizzes, using either a course management system or a dedicated testing application, offer numerous advantages over their pencil-and-paper counterparts. Quizzes can be set up to select questions randomly from a pool, display graphics or video with the question text, provide immediate feedback based on the learner's response, offer spell-checking, allow multiple retakes, and enter the quiz scores directly into an online gradebook, as just a few examples of available features. A variety of question formats are available, including multiple-choice, short-answer, numeric, and many others. Online quizzes are best used as formative, self-study activities that reinforce important ideas, provide feedback to learners, and motivate them to keep up with course readings. Online quizzes are especially well-suited to reinforce the acquisition of foundational knowledge (i.e., lower-order thinking) that supports meaningful, higher-order learning outcomes.

Online testing tools may also be utilised for high-stakes assessments (final exams or licensure tests, for example), but are best administered in a proctored setting. For many distance education programmes, hiring test proctors to monitor student exams provides a reasonable element of accountability to offset the unsecured nature of the online environment. Proctored testing centres typically require students to present identification prior to taking an exam and may also elect to install browser lock-down software to prevent printing or copying of the test questions, surfing the web, or interacting with others via e-mail or instant messaging. An additional advantage of integrating proctored assessments into instruction is that student performance levels in a proctored setting that are consistent with scores earned for work completed at a distance will help validate the assessment regimen and enhance credibility.

Online tests offer significant advantages in ease of implementation. Tests incorporating multiple-choice, true-false, matching, or other types of machine-scorable questions are an efficient way to measure learning, especially if the instructional objectives are written at a low level of cognitive effort, such as remembering or understanding. If the objectives, however, require higher-order thinking such as inferring relationships or creating models, multiple-choice test items get more difficult and time-consuming to create. Writing multiple-choice test items that require higher-order thinking skills demands creativity and careful attention to the course or unit objectives. For example, a question at the analysing or evaluating levels might present learners with a written paragraph and then expect them to identify gaps in logical reasoning, recognise data elements relevant to the solution of a problem, or judge which of the statements presented fits a set of given criteria. The students would need to apply their understanding of the course content to demonstrate these skills and would not simply be recalling the correct answer from memory.

Besides the obvious time-savings advantage of machine scoring, tests also enable a teacher or trainer to ascertain specifically which concepts within a course, module, or lesson are being mastered and which are not. Item analysis can quickly identify questions missed by many students, for example, and also indicate the likelihood that students simply had not learned the intended concepts, or whether the test items in question appear to be poor discriminators (i.e., items frequently missed by students who know the material and/or items frequently answered correctly by students who do not know the material). Additionally, objective tests created with

assessment software (whether specialised or as part of a course management system) can include options such as individualised branching, adapted content presentation, and selective release of test items based on performance. For disciplines requiring meticulous classification of skill attainment and feedback of precise granularity, such customisation is highly valued.

Asynchronous Communication

One of the most frequently used features in any course management system is the asynchronous *discussion forum*. These flexible online utilities can be used for a wide variety of assessment activities. The most obvious approach is to have students respond to questions or discuss course material within the forum environment. Not surprisingly, when learners are given time to think about their responses, the contributions are apt to be more meaningful, on-topic, and well organised than those offered in a traditional classroom environment. Of course, as in all discussions, good questions are more likely to produce good answers. Questions that expect students simply to recall (or look up) the answers won't generate a true conversation and are better saved for quizzes.

One useful strategy is to post a thought-provoking question that encourages higher-order thinking; after students respond to the prompt, have them return to the forum and reply to one or several of their peers' messages. In many cases, students will read all of the messages posted to determine which ones they will respond to, with the ideal result being a discussion in which everyone gets to talk and everyone listens. Additionally, students will often return to the forum yet again to read the comments offered on their initial messages and respond to those posts. Many instructors find it helpful to establish a maximum length on posts (especially at the graduate level) to encourage focused, to-the-point responses and to increase the likelihood of posts being read by peers. Other ways of using the discussion forum include student debates (especially when using groups), student-moderated discussions with questions generated from readings, or using the forum as a repository for the student to share their work (in progress or completed), with one another, for peer review or support.

Another asynchronous communication tool especially useful for distant students is a wiki, which may be part of a Course Management System or function as a stand-alone utility. These online environments allow groups of students to collaborate online, incorporating text, graphics, and other digital materials into a cohesive product. The wiki site (depending upon the software used) can be visible to only a few group members, to anyone in the course, or visible only to members initially, then later made available to others. Permissions for editing and commenting can also be assigned to specific individuals or left open to anyone who's interested. Every version of the site is retained, typically, so if a student inadvertently deletes something important it can be retrieved, or if a user determines that an earlier incarnation of the work is preferred, that version can easily be restored.

Using a wiki as an assessment tool has distinct advantages over traditional group work. With the appropriate settings established, the instructor can see which group member made which contributions or edits to the most recent version of the site, thus alleviating one of the major headaches related to student collaboration. Additionally, because all group members can edit the site, students get practice with important teamwork skills like negotiation and consensus-building.

Synchronous Communication

Communication tools such as desktop videoconferencing, audioconferencing, chat, or instant messaging provide a real-time dynamic for assessment that can offer instructors an immediate sense of how well students grasp the course content. This is especially helpful when specific course objectives require students to apply newly learned skills and content extemporaneously. For example, the ability to speak a foreign language fluently is most appropriately assessed in a real-time, audio- or video-based interaction. Synchronous tools can be used for one-to-one sessions between the instructor and a student as a way to conduct an oral exam. Synchronous communication tools also facilitate the use of student presentations as an assessment option, during which a group of individuals need only log in to view and comment on their peers' speech or other real-time presentations.

One disadvantage to real-time assessments is that only a small group of learners can be actively involved simultaneously. Attempting to conduct synchronous activities with a large group of students (more than a dozen, for example) typically results either in chaos or a substantial percentage of the students lurking passively in the background. One method for avoiding a string of disordered exchanges (or, even worse, none at all) is for the instructor to guide the conversation around a series of discussion questions, with ample opportunity for everyone to respond. Some professors handle this by posing a question in the chat and then "calling on" two or three students to respond. Once these individuals have presented their responses, other students are given the chance to join in and add their ideas or ask follow-up questions, if they choose to. Students have the option to waive a particular question and be called on again, but by keeping track of who has participated throughout, the professor ensures that everyone has a chance to contribute.

Finally, synchronous assessment activities offer two related and especially important capabilities to distance education programmes: building a sense of immediacy between students and the instructor and facilitating the formation of the learning group. Immediacy refers to the perception of social presence, or that sense of "being with" someone else, and is based on Mehrabian's work (see, e.g., Mehrabian, 1969) on communication and social dynamics. For students working at a distance, possibly in geographic isolation, membership in the learning group offers a sense of belonging and adds relevance to the instructional experience. Synchronous interactions, such as online chats or audioconferences, enhance those perceptions and students often remark that it makes a difference to know that the teacher is "really there, right then" during these sessions. Another possible benefit is that when students feel closer to the instructor or other students, undesirable behaviours, such as responding inappropriately in online discussions or cheating on an assignment, may be less likely to occur.

Academic Misconduct

In any discussion about assessing learner progress, it is inevitable that the conversation will turn to the many ways that students can (and will) undermine our efforts by cheating or plagiarising. Although these are not problems exclusive to the distance education domain, the use of advanced communications technologies, coupled with the perceived absence of an authority figure, has led to what many instructors consider a growing problem on campus and off. Refreshingly however, several studies

suggest that students in online classes cheat less (Peled et al., 2019) or no more than (Beck, 2014) their face-to-face counterparts. What everyone can agree on is that cheating and plagiarism are serious problems and that they have never been easier to commit, thanks to the increased technological literacy of our students and the wide availability of online services facilitating questionable behaviour.

Plagiarism

Instructors should distinguish between plagiarism (i.e., the intent to claim as one's own someone else's words or ideas) and the simple misuse of sources resulting from ignorance or carelessness. Unfortunately, many students do not understand when or how to cite sources appropriately and few instructors are willing to take time away from course content to teach them. There are, however, many online tutorials available that instructors can assign for students to review prior to submitting assignments.

The ease of relying on the work of others has fueled interest in plagiarism detection services, whether integrated with a CMS or stand-alone. These tools compare papers turned in by students to those already included in databases of papers found publicly online or in digital library collections. One option for using a plagiarism detection system is to submit rough drafts, thereby alerting them to potential problems with citations or direct quotes. At a minimum, if instructors anticipate using a plagiarism detection system, they should notify students of this in writing, explaining why the software is used, how their work and private information is protected, and whether they are allowed to opt out of the process.

Of the technologies that have influenced cheating and plagiarism, the most frequently cited as troublesome are the online sites where (allegedly) literate entrepreneurs sell papers for students to claim as their own work. Although purchasing prewritten essays or term papers is hardly a recent phenomenon, the relative anonymity of the online marketplace has contributed to the boom of companies offering these products. Paper mills (those online businesses that sell papers) have found a lucrative niche in cyberspace and a quick online search can turn up hundreds of these companies. As tempting as such opportunities might seem to students, they should be warned that the documents may actually be of lower quality than they could have produced themselves. In addition, instances have recently been reported where students who used these services were blackmailed by companies that threatened to report the students unless additional fees were paid.

Finally, it is necessary to address the most recent addition to the panoply of academic misconduct opportunities: text generated using artificial intelligence, otherwise known as large language models (LLMs). The best-known of these, ChatGPT, became freely available in the fall of 2022 and was quickly followed by Bard (Google), LLaMA (Meta), and others. The processing and design behind these tools was in the works for decades but gained popular attention until the software became free to the public and easy to use. In a nutshell, LLMs are able to create text that is nearly indistinguishable from human-generated writing, leading many instructors to wonder how they'll know who-or *what*-wrote a paper that a student submits. While this concern is troubling and has gained much attention, there is no evidence that LLM papers have been, or will be, seen in distance education more than in other learning environments.

Soon after the release of ChatGPT, many assessment strategies were suggested in response to the possibility of students submitting AI-generated papers instead of their own work. These techniques have come at the problem from multiple angles, from deterring students from relying on it or purposefully incorporating it into their instruction. Warner (2023) raised two points worth mentioning: It is nearly impossible to identify LLM text and the focus "needs to be on how we assess and respond to student writing" (para. 10). He goes on to suggest that writing prompts need to be more authentic, involve student reflection, and require substantive problem analysis. As content creation tools such as these continue to grow in number and sophistication, instructors in all environments will need to adapt by matching these advancements with creative and thoughtful assessment design.

Cheating

To a great extent, teachers assume that students are honest individuals. For example, few instructors in a face-to-face classroom environment would consider checking identification to verify that each person sitting in that room is, in fact, who they claim to be. So it is with distance education programmes, that when students submit assignments, participate in discussions, or request instructor assistance they are rarely questioned as to their identity. However, as discussed earlier, proctored exams provide a checkpoint to balance the perceived anonymity of learning at a distance, ensuring that the student upon whose transcript the course credit and grade will appear, or whose license validates their abilities, is actually the student doing the work and demonstrating their mastery of the objectives.

Technological options to combat cheating on tests include randomising the order of test items, randomly selecting a percentage of items from a test pool, utilising browser lock-down software, and implementing a monitoring programme using the computer's built-in video camera to record learners taking tests, although many instructors find this last method objectionable and many consider it intrusive. There are also concerns that such technological monitoring can intensify test anxiety (Woldeab & Brothen, 2019), increase extraneous cognitive load (Eyler, 2020), and discriminate against students with disabilities (Brown, 2020). These measures can all be defeated, of course, when students are taking tests in an unproctored setting, but their use sends a reminder that cheating is unacceptable. Instructional or logistical means to alleviate these problems might involve requiring students to take exams in a proctored setting, expecting or allowing students to work collaboratively on a test (thereby turning a problem into a learning strategy), imposing time limits for test taking, or simply abandoning the use of objective tests for other assessment methods.

Deterring Academic Misconduct

Distance education programmes walk a fine line between creating a climate of suspicion and mistrust, and condoning a completely laissez-faire attitude toward serious transgressions, particularly when students feel removed both geographically and psychologically from the educational process. An analogy of how instructional design might deter academic dishonesty is that of the person who takes a foreign language class before moving to another country. Would they cheat on assignments?

Probably not, because the tasks are relevant to their needs (practising with new vocabulary) and the result is tied directly to a desirable outcome (speaking in the new language). Ensuring that assignments are relevant is one of the best strategies for deterring cheating.

Another instructional strategy that may circumvent dishonesty is to incorporate many small assessments throughout the unit, course, or module. These ongoing activities can reduce student anxiety and alleviate the one-chance-to-prove-myself pressure that may nudge students over a line they should not cross. These might include short exercises over course readings, requiring students to participate in a weekly poll about topics relevant to the course content, or a version of the "1-minute paper," during which students write a summary of what they considered the most important concepts of that unit (Angelo & Cross, 1993). These motivational activities also encourage students to keep up with their work and they provide valuable feedback with minimal effort for teachers or students.

SUMMARY

Assessment is the means of measuring learning gains and can be used to improve the teaching-learning process in distance education settings, as well as traditional environments. Determining content mastery and transferability of skills helps teachers and students identify gaps in learning; it gives feedback to the teacher about the instruction and feedback to the student on their strengths and weaknesses relative to the desired outcomes. It also can reinforce content and identify misconceptions, and act as a motivating force that prods learners toward content mastery.

Distance education can serve as a catalyst for change and growth in the education arena. By rethinking our ideas about what a classroom is, what teaching and learning are, where learning can occur, and how to measure it most effectively, we can use the best of what we know that works and discover new ways to facilitate this change. Distance education can be more than doing the same old things in many places instead of just one, and we need not feel bound to emulate worn-out models. Assessment, as a component of the instructional design process, can explore new ideas and refine the old as we reflect on our best practices for teaching and learning in whatever environmental configurations may confront us in the future.

4.4. INSTITUTIONAL STRATEGIES TO MITIGATE NON-CONTINUATION IN OPEN AND DISTANCE EDUCATION

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Introduction

Persistence in higher education (HE) is of concern to many stakeholders – students, institutions, regulators, policy-makers, and society – all of whom have an investment in the success of individuals. For many that investment is financial or reputational but for students, it can additionally impact on self-worth and confidence and begs the ethical question of whether institutions should recruit those who may be unlikely to succeed. Increasing government and regulatory scrutiny is also focusing attention on retention with high dropout seen as an indicator of poor quality provision (De Witte and Sneyers, 2017). For open and distance education (ODE) providers, the fact that they are judged, often inappropriately, using the same criteria as full-time face to face providers adds to the challenge they face.

Institutional strategies to improve retention by mitigating non-continuation are therefore critical. This chapter first explains why addressing attrition is so important and briefly highlights some of the historical attempts to improve retention in traditional contexts. It then discusses the specific issues associated with retention in ODE and suggests some strategies for mitigation.

It should be noted, however, that whilst it might be possible to reduce non-continuation, there are no universal solutions. Students are individuals, with their own unique characteristics, situations, and experiences. What may help one, may not work for others. For this reason, financial issues are not discussed here, despite this being a very common reason for active or passive withdrawal (Mortensen, 2014; Carr, 2021). Furthermore, there are sub-categories of non-continuation: those who have done enough and attained their personal objectives; those who need to defer or postpone but intend to return; those who do not meet the academic requirements for the award of a qualification; those who actively withdraw and provide a reason; and those who quietly disappear, referred to as passive withdrawal. The first two groups could be considered as forms of success from the student perspective so it is the latter three groups which will be considered here.

Traditional approaches to retention in higher education

The issue of retention, or conversely non-continuation, in HE is of long-standing (Tinto, 1975,1999; Bean and Metzner,1985; Barefoot, 2004;) but has most recently been associated with widening access (Thomas, 2001) and more universal provision of HE (Trow, 2007). As universities expanded access to more diverse student bodies and the number of higher education institutions (HEIs), across the world, increased, academic communities began to realise that historical approaches to HE provision were not delivering expected outcomes in terms of proportions of students graduating. In the United States, for example, the average retention rate in the college system is 71% and of the 57% who do not complete within 6 years, 33% dropout altogether (Craft, 2021). These data also show that those institutions with the lowest acceptance rates – that is, the most selective – had a retention rate of 97% in 2017/18 whereas the least selective

saw retention rates of only 63%. Open access providers were even lower at between 55% and 60%. Results in the UK are similar with an average sector retention rate of 72% (Hillman, 2021), but this disguises the disproportionate attrition of part-time students, those from minority ethnic backgrounds or those with a disability for example.

Attempts to theorise and find solutions are usually traced back to Tinto (1975) and his work in the US college system. These early approaches tended to 'pathologise' the student, that is, identify the characteristics of individuals which are more likely to result in them withdrawing or failing to meet academic requirements, whereas more recent thinking has attempted to examine the structural and ideological factors which create barriers to successful study (Burke, 2002; Quinn, 2005). Nonetheless, 'fixing' the student so that they learn the language of academia or the rules of the game, for instance, are still common. Usually, they are supplemented by ideas of fostering a sense of belonging and community, drawing on Bourdieusian ideas on cultural capital (Reay, 2004; Carruthers- Thomas, 2015) and considerations around the 'hidden curriculum (Hinchcliffe, 2020). Later, Tinto also shifted his focus to the importance of motivation and persistence (2017).

The open and distance education context

The problem of non-continuation is considered to be more acute in distance education, and particularly in Open Universities. Actual data is difficult to find, and Radovan (2019) cites a number of sources which put dropout anywhere between 20% and 80%. It is tempting to suggest that the lack of formal prior qualifications is a key driver in dropout but that leaves the question of how similarly non-qualified students can stay the course and be very successful. Nevertheless, it is generally accepted that rates of dropout are higher in distance education than in face-to-face, full-time. This matters because those who embark on this mode of study often do so because they are returning to learning, need flexible options and are making a considerable personal and financial investment in their future. They may be juggling childcare, employment, and study, have a disability which constrains their ability to participate in face-to-face learning, are in prison or serving in the armed forces (see for example facts and figures at the Open University UK (OUUK)[1]. Such constraints are barriers to traditional face-to-face full-time study but can be mitigated by the flexibility in access to and the process of study, which distance education offers. However, they can also be the reasons for non-continuation (Carr, 2000).

Ormond Simpson (2003, 2004, 2008, 2013) pioneered work in the UK on retention in open and distance education, making the economic case for greater institutional efforts to reduce dropout. He primarily focused on the idea of proactive motivational support where the tutor regularly contacts the student by email, telephone, or letter. Drawing on ideas in positive psychology he found that contacting his students rather than waiting for them to contact him significantly increased retention and module completion (Simpson, 2008). Simpson was researching with his own students and thus small numbers; the data he had access to at the time was limited but it could be argued that this approach was a forerunner of the Early Alert Indicators programme described later in this chapter.

In 2002, Alan Tait called for a review of the way learner support was provided in ODE, arguing that a plurality of learners needs a plurality of approaches, foregrounding

1 Facts and figures | About The Open University: https://about.open.ac.uk/strategy-and-policies/facts-and-figures

ideas of personalisation. He also mentions engagement as an increasingly important concept, an idea reflected in a growing literature about how to create a sense of belonging in academic community as a driver of persistence and motivation (see, for example, Luo et al., 2017). Rovai (2003) also argues that increasing persistence is key to improving retention in distance education, although much of his argument appears to relate more to traditional, face-to-face models of delivery.

More recently, Bağrıacık-Yılmaz and Karataş (2022) have researched reasons for dropout in ODE and identified four categories: internal reasons, external reasons, student characteristics, and student skills. However, they also outline 37 sub-categories and point out that staff are not always aware of the reasons for dropout. They conclude that students at risk of academic failure should be identified, and that social interaction is important. However, they also stress the importance of instructors, or tutors, arguing that they should be properly selected and trained in their roles in ODE and that 'Measures should be taken to guarantee student-instructor interaction in online or face-to-face meetings' (p19).

Strategies to mitigate dropout

A common approach to identifying interventions is to consider dropout points using a model of what is referred to as the student lifecycle (Macfarlane, 2019; Thomas, 2012). Whilst imperfect for modelling the journey of students in ODE it does provide a loose framework to plan how and where interventions may be helpful. Typically, there are at least three points where dropout occurs in ODE, actively, passively or through academic failure: at the enquiry stage; at registration; and during study, predominantly at assessment points. The diagram below, drawing on aggregated data from an open university, shows the points at which students typically withdraw, actively, passively or through academic failure, and the persistence rates at each of these points. This model will be used to structure the examples provided in the rest of this chapter.

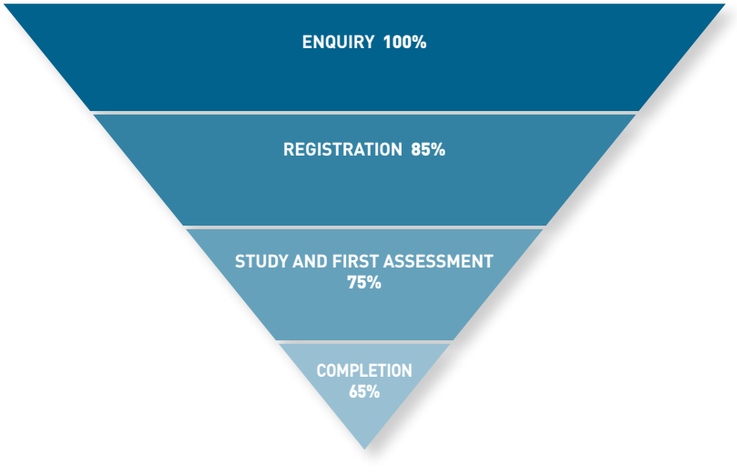

Figure 1. Typical attrition in open and distance education.

Enquiry

At the enquiry stage, potential students are seeking information about options, responding to marketing, considering costs and deciding on the right time to start. Some will wonder whether they are ready for study or whether they have the capacity and capability, and this part of the journey can last many months. It is crucial that information provided is accessible, useful and accurate but it is also vital to ensure would-be students receive guidance on what study will be like, what starting points are available and where the best place to start is for them. This is particularly important to prevent spontaneous sign up which often results in negative outcomes. Here, three strategies adopted at this point by open and distance HEIs are highlighted.

Firstly, diagnostic self-tests can be useful here, allowing students to ascertain whether they have the right literacy, numeracy and digital skills, as well as confidence that their chosen subject is right for them and they have the time necessary. An example of a subject choice diagnostic can be found at the tool: Are you ready to start an Engineering qualification (T192)?[2]. The OUUK also offers a simple diagnostic for an applicant to assess their general readiness[3] and can direct those who need to enhance their skills to a partner agency which offers free resources[4].

Secondly, many open and distance universities offer free online learning resources for applicants to try out before they enrol. This allows them to self-assess their readiness for their level of study and also whether they will cope with the mode of learning. Examples include the Universidade Aberta's Openclass[5], the OUUK's Openlearn[6] and Fern University's sample material provision[7]. A good information, advice and guidance service will direct applicants to resources to support enquirers in making good choices about their starting point and subject choices.

The third strategy is to direct applicants to specialist introductory courses, which help to build study skills and confidence. The OUUK offers 30-week Access courses in four subjects[8] designed to allow learners to experience the distance learning model, to try out subjects in cognate discipline areas and to develop as autonomous learners (Marr et al., 2013). This tried and tested model shows that students who begin their studies with these modules are retained and perform around 10 percentage points better than those who enter first cycle programmes directly (Butcher et al, 2018, 2020; Butcher and Clarke, 2021, 2022). A fast-track version for those who are unsure about what study will be like but want to get into their undergraduate studies sooner is now available, taking 18 weeks only.

2 See link to this tool at: *https://students.open.ac.uk/openmark/engineering.ayrf/*
3 Entry Requirements | Can I do it | The Open University, available at: *https://www.open.ac.uk/courses/do-it*
4 See further information at: Learn My Way | Free Learning for Digital Skills | Good Things (goodthingsfoundation.org, available at: *https://www.goodthingsfoundation.org/what-we-do/learn-my-way/*
5 Link to the Universidade Aberta Open Class website, Aula Aberta: *https://aulaberta.uab.pt*
6 Link to the OpenLearn website from the Open University UK: *https://www.open.edu/openlearn/*
7 For example, the Showcase – B.A. Political Science, Public Administration, Sociology at: *https://www.fernuni-hagen.de/KSW/portale/bapvs/einstieg/schaukasten/*
8 Access Courses provision at the Open University: *https://www.open.ac.uk/courses/do-it/access*

Registration

Once a student has committed to a study programme by registering, or enrolling, they receive their study materials, access to the virtual learning environment (VLE) and the contacts they will need. What they are very unlikely to do, in distance education, is physically meet their teachers or their fellow students. Some universities may host face-to-face events but the reasons many students opt for distance education may also be the same reasons that mean they cannot attend in person. Trying to create a community and induct students into distance learning can therefore be difficult. The use of subject or cohort-based electronic fora is common as are Facebook groups and local centre meet-ups. Combined services such as Fern University's StudyFit[9] or the Student Hub Live[10] aim to foster learning communities and familiarise students with all the services they need to study successfully.

Having timely, accessible, and accurate advice and guidance that students are able to find is also critical at this stage of the journey. Because of the flexibility open and distance learning offers, students may have opted to study for more credits than they can manage or have chosen a discipline without having understood what skills or knowledge may be needed. These are common reasons for both passive and active withdrawal so knowing who to contact and how to make changes to subject or study intensity is very important.

Study, assessment and completion.

The use of learning analytics to improve retention during study is becoming increasingly popular due to the positive results experienced. Online and distance education lends itself well to the use of such tools due to the quality and quantity of data available. Such data include demographic data, VLE engagement, use of *fora*, attendance at tutorials, assessment submission and performance. Using machine learning, data can predict the likelihood of a student submitting an assignment, of completing the course and of passing (Calvert 2014; Heredotou et al, 2019). At the OUUK, the Early Alerts Indicator Dashboard (EAID) has been developed to provide tutors with information about student progress and, using a traffic light system, when proactive motivational contact might prove useful. The use of the dashboard has so far resulted in increases of 7-8% in chances of passing the course, rising to 10% for students from underrepresented groups and low socio-economic backgrounds (Hlosta et al, 2021).

It should be noted that these results were not reflected in a major randomised control trial in England carried out in two traditional face-to-face institutions (Summers, 2024) where at risk students received an email or an email and a follow-up phone call. The outcomes of the trials suggested that there was no measurable difference in engagement between those who received just the email and those who received both email and call. One reason for this contrast with the OUUK experience could be that the interventions in the OUUK approach are made by the student's tutor, somebody they know and who knows them. The EAID is also likely to have a much greater amount of data because OUUK engagement is predominantly digital in all areas of student activity.

9 Study Fit page support at FernUniversität in Hagen: *https://www.fernuni-hagen.de/studium/studyfit/start/*
10 Student Hub Live at Open University UK: *https://studenthublive.open.ac.uk*

So far, the interventions described have been designed to address active and passive withdrawal, but it is during study and assessment that academic non-progression usually occurs. This could be the result of lack of readiness for the level of study or inexperience in assessment practices. Data analytics can be used to identify trends and thus whether there are aspects of a course of study that many students are struggling with, Adjustments can then be made to address any weaknesses in the course materials or the way they are delivered.

More problematic is the part-time, flexible nature of study in ODE where a student is well-supported at the level of the module but may find programme-level assistance more difficult to access. Thus, if a student fails an end-of-module assessment, they may not receive guidance on how to manage reassessment and are more likely not to return. Ensuring that there is ongoing support for students after a module and prior to the start of their next module(s) is important but sometimes neglected.

Conclusion

This chapter has highlighted some of the reasons for drop-out in ODE and some strategies for mitigating these. It is important to remind ourselves of Tait's (2002) point – that the diversity of our student bodies requires a diversity of strategies. This is challenging in a context where numbers are very high and where students rarely meet their instructors or each other. As machine learning and AI tools develop further, analytics may make it possible to personalise the support and contact needed according to the profile of an individual student. An AI tutor could provide that service although Summers' (2024) research suggests that the impersonal nature of those interventions (emails and calls from people the students did not know) may not be as effective as personal tutor contact.

Whilst none of the strategies suggested here are guaranteed to eradicate attrition, each has shown reductions. Giving students the opportunity to undertake diagnostics, to trial study materials or to take pre-entry courses can be effective but they need to be supported with professional information, advice and guidance teams to ensure students start in the right place and know what they are committing to. When they begin study, they need to know where support can be found but it must be accessible and relevant. Engaging students in the academic community and creating a sense of belonging can help but is not easy in ODE so strategies should be developed to create opportunities for social and academic interaction with academic staff and fellow students (Foley and Marr, 2019).

In my own experience of supporting students to succeed I have found two things invaluable. Firstly, the rich data that ODE institutions generate can tell us much about potential student performance and allow us to provide timely proactive motivational support. It can also tell us a lot about our own practice in terms of the suitability of our curriculum and assessment practices. Lastly, but by no means least, student voice, if we choose to listen to it, can tell us much of what we need to know. This goes beyond having them as representatives on committees or filling in feedback forms. Inviting students to be part of research and transformational change projects brings their lived experience into the work we do. Genuine academic communities will have students at their heart – they know what makes them think about withdrawing and we need to find ways to help them share this with us.

4.5. DISTANCE EDUCATION IN THE DIGITAL AGE: MORE THAN EVER FOR EVERYONE, EVERYWHERE, EVERYWHEN.

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Digitise to Thrive: The 21st Century Imperative for Higher Education

"The university of the 21st century will either be digital or it won't be" (Fernández et al., 2021, p.8). However, becoming digital is not just a matter of adding emergent digital technologies to pedagogical approaches. The digital transformation of Higher Education institutions (HEIs) entails a comprehensive approach involving three "Ds", digitisation, digitalisation, and digital transformation (Reinitz, 2020). The ultimate goal is to evolve towards efficient digital educational organisations that prepare students, academics, researchers and administrative staff for the challenges and opportunities of the digital age in a networked world (Fernández et al., 2023; Llorens Largo & López-Messeguer, 2022; Ramírez Montoya et al., 2022). The European Digital Education Plan (2021-2027) (EEA, n.d.a), is a good example of the global approach to foster high-performing digital education ecosystems.

Digital Education is a crucial part of HE's digital transformation. It involves the use of digital technologies to facilitate and enhance teaching and learning processes. Since the past century, the education field has been constantly evolving and has been reshaped due to the emergence of new technologies (Weller, 2022), as highlighted in annual reports such as the Educause Horizon Reports (Educause, 2024).

Years before the 2020 Covid-19 pandemic, digital education was challenging onsite HEIs due to the development of different digital teaching and learning modalities such as fully online, blended, or hybrid education, along with digitally enhanced onsite learning scenarios (Bates, 2015, 2022a,b; Orr et al., 2018). These possibilities called for the HEIs to reinvent themselves, under a clear threat of an up to 50% extinction in the USA, according to the most pessimistic forecasts (Christensen & Eyring, 2011). Despite this, many traditional educational institutions were reluctant and slow to change (García Aretio, 2019). We were far, then, from imagining the most unprecedented disruption in education ever brought by the global lock-down due to the pandemic, as highlighted by the United Nations (United Nations, 2020), leading to the abrupt transition to online learning of the whole educational system. This shift, referred to as "emergency remote teaching" by Hodges et al. (2020), required significant efforts from traditional distance education institutions and digital experts worldwide, and international organisations such as UNESCO, to support onsite institutions' abrupt transition to fully online learning.

In the "new normal," educational institutions must learn from this experience and prepare for future disruptions. Relying solely on face-to-face teaching is no longer sustainable, and institutions must be equipped with strong digital capabilities to navigate potential challenges. It is also essential to shift from emergency or reactive online modes to sustainable investments in new modes of teaching and learning, meeting the demands of a digital world (Moore et al., 2021). This shift is crucial to meet the digital transformation, as significant gaps in regulation, infrastructure, and competencies for quality online education have been identified

during the pandemic (Abdrasheva et al., 2022). In Europe, this vision aligns with the European Commission's main goal of resetting education and training for the digital age, as outlined in the *Digital Education Plan for 2021-2027*.

Distance Education in the digital age

"Digital Education" and "Distance Education" are not synonymous or interchangeable terms. The *Mediated Didactic Dialogue Model* (García Aretio, 2014), provides a comprehensive framework that outlines the specific characteristics of Distance Education (DE). According to this model, teaching and learning processes are typically conducted through a deferred space and time relationship between the teacher and the student. The dialogue between them takes place through specific resources and technologies. DE allows for a flexible approach to learning, as it does not require the physical presence of the teacher and the student in the same place at the same time. This model integrates the previous assertions of renowned experts in the field, such as Peters, Moore, Holmberg, and Garrison.

Unlike traditional face-to-face education, DE has historically utilised available technologies for mediated didactic dialogue, evolving through various DE generations (Heydenrych & Prinsloo, 2010). The emergence of the Internet brought about a significant transformation, enabling early digitally-supported education, innovative instructional methods (Brown, 2023), and the development of the first totally online distance education universities, such as the Universitat Oberta de Catalunya (UOC). García Aretio's (2020) analysis of the various terms used to describe distance education, particularly after the incorporation of the Internet, concludes that "distance education" remains the most suitable and comprehensive term for education that is not delivered in-person but is supported by technology and digital resources. Therefore, we can refer to the term *digital distance education* (García Aretio, 2020; Sánchez-Elvira Paniagua et al., 2018), as long as it remains a form of distance education which has its peculiarities in relation to digital education in general.

Strictly speaking, integrating digital tools into traditional face-to-face teaching involves using digital technology to enhance teaching and learning methods while still maintaining direct interaction between teachers and students in a physical place. On the other hand, digital-based distance education relies on digital technologies to generate the interaction between educators and students, also recognising the value of traditional distance education resources in cases where digital tools may not be accessible or effective.

The role of Distance Education Universities in the current HE landscape

Despite differences between face-to-face and distance education, another issue is higher education institutions' current use of these modalities. As mentioned earlier, long before the pandemic, the Internet was already revolutionising HE by promoting the rapid expansion of blended and online modalities, leading to improved scalability, interoperability, and flexibility (Bates, 2015, Teixeira et al., 2019, Weller, 2022). In fact, the Open Education Resources (OER) Movement (UNESCO, 2002, 2012, 2022a,b), the 2011 leap in scale and availability through Massive Open Online Courses (MOOC) and their further evolution (Weller, 2022), or methodological strategies such as Flip Teaching (Han & Røkenes, 2020) were not developed within DE institutions, which already had a high number of students enrolled, but at the heart of traditional HEIs, organisations, and companies that were discovering the possibilities of expanding their access scope, possibilities, and horizons.

International organisations were also advocating for the digitalisation of higher education. For instance, the 2018 *EHEA Ministerial Conference in Europe* emphasised the significance of digital and open education in fostering lifelong learning and developing digital skills:

> *"We call on our higher education institutions to prepare their students and support their teachers to act creatively in a digitalised environment. We will enable our education systems to make better use of digital and blended education, with appropriate quality assurance, in order to enhance lifelong and flexible learning, foster digital skills and competences, improve data analysis, educational research and foresight, and remove regulatory obstacles to the provision of open and digital education."* (p.3)

Inevitably, this global movement was also impacting traditional Open and Distance Learning (ODL) institutions that were starting to feel a blurring of the boundaries between ODL and on-campus universities (Sánchez-Elvira Paniagua et al., 2018; Teixeira et al., 2019). HEIs can now offer diverse educational options through the convergence of various modalities. This movement was previously foreseen by various authors such as Bates (2015), Tait (2015), and Tait and Mills (1999), who predicted that, with the growing popularity of online education worldwide, distance learning, facilitated by technology and its benefits, would move from the periphery to the mainstream of education.

However, the global maturity test and the "great leap online" took place during and after the global immersion of the 2020 pandemic (Brown, 2023). In Teixeira and Mota's words (2020), "Distance and online learning saved higher education in 2020" (p.179), supported by the expertise of traditional ODL institutions, although face-to-face institutions did not have enough time to develop the structured and quality distance education that traditional ODL institutions are experts on (Nichols, 2023).

In these new convergent scenarios, the term "ODDE" (Open, Distance, and Digital Education) has recently emerged:

> *"All kinds of learning and teaching processes in which knowledge and skill base of educational technology, digital media, and tools are used to present and deliver content, as well as facilitate and support communication, interaction, collaboration, assessment, and evaluation"* (Zawacki-Richter & Jung, 2022, p.5).

This definition includes online education as a digital modality of distance learning and extends the previous definition of ODL as "a convenient shorthand for the intersection of digital, networked and open practices in education" (Weller, 2022, p.77).

It is worth considering, at this point, whether traditional ODL universities will continue to have a place in the new HE ecosystem. This question was raised prior to the pandemic by various ODL experts, who called for a collaborative reflection on the future of ODL institutions based on their visions and perspectives (e.g. Teixeira et al., 2019; Bell et al., 2017; Orr et al., 2018; Paul, 2016; Sánchez-Elvira Paniagua et al., 2018; Tait, 2013, 2018). As we face rapidly changing and complex educational scenarios in the next quarter of the 21st century, this is now an even more relevant question.

Better equipped for digital and distance learning, always integrating innovative educational technologies (Bates, 2022b), ODL universities in the ODDE domain can certainly contribute to solving many global challenges, especially those which require their unique mission, experience, expertise, organisation, infrastructure, and specific characteristics. This means it is important for ODL universities to maintain their differences from universities that have a physical presence, even if they are already digital universities, although they need to reinvent themselves (Teixeira & Mota, 2020).

We suggest that Open and Distance Universities should keep on working innovatively on their three fundamental "Bs" to enable digital higher education without barriers, boundaries, and borders (Sánchez-Elvira Paniagua, 2023), contributing to the UNESCO objectives for the futures of education, in general (2021), and HE in particular (2022), and the general main goal of the 2030 Agenda for Sustainable Development of "not leaving anyone behind" (United Nations, 2016).

Digital Distance Education and HE without barriers

The 2020 UNESCO's global report on education *Inclusion and Education. All means all*, identifies some of the main causes of inequality in access to education: "Gender, age, location, poverty, disability, ethnicity, indigeneity, language, religion, migration or displacement status, sexual orientation, gender identity and expression, incarceration, beliefs, and attitudes" (UNESCO, 2020, p.20). Inclusion is also at the core of the "European Education Area" and its goal of "Removing barriers to learning and improving access to quality education for all" (European Commission, n.d.a). However, inequalities in access to higher education, worsened by the pandemic and the challenges of digitalisation progress, are hindering the achievement of the 2030 Agenda, according to recent research on 50 countries (Atherton, 2022).

According to Tait (2013), the mission and primary goals of traditional distance education universities are equity and equality of opportunities. While technology plays a crucial role in enabling distance education, viewing it solely through the lens of technology is to miss the bigger picture. The true value of distance education lies in ensuring that everyone has access to education and knowledge, without any discrimination based on location, time, or other relevant personal features. Its goal is to democratise learning and to make sure that education is not a privilege, but a lifelong opportunity for anyone who desires it. According to Tait, it is essential to protect the developmental character of HEIs, particularly open and distance teaching universities, in the face of increasing commercialisation and commoditisation of HE (Tait, 2013).

To broaden access to HE, open and distance learning universities proliferated in response to rising demand over the last century. By 2024, the number of HE students worldwide will have exceeded 230 million, more than doubling in two decades, with further growth expected. HE demand is projected to continue its rise, with estimates suggesting nearly 380 million students by 2030, 472 million by 2035, and over 594 million by 2040 (Calderon, 2018). However, although globally the current enrolment rate is 40% (of the population that could potentially enrol in tertiary education, UNESCO, 2022c), disparities persist. A growing access to HE is expected to generate an ongoing and expanding demand for it, prompting questions about the viability of traditional face-to-face education to meet future needs (Brown, 2023). A call for the promotion of technology-enabled learning, including Open Educational Resources (OER) and distance education, to guarantee inclusive HE access, has been repeatedly made (e.g. UNESCO Incheon Declaration for the SDG implementation (UNESCO, 2015).

Among the millions of people for whom access to HE is provided, distance learning universities have been addressing the so-called *non-traditional* students in their formal programmes, including a large majority of adults, as well as minorities with special needs, such as people with disabilities, people in remote rural areas, migrants, ethnic minorities, or people in prison. Let's examine the significance of distance learning universities by considering some recent data that highlight the high number of non-traditional students accessing HE through these institutions in Spain.

In 2022-2023, the total number of students enrolled in bachelor's degree courses in the 89 Spanish universities was 1.478.874, of which 214.199 were enrolled in 6 distance education institutions. The disaggregated data from the Spanish National Distance Education University (UNED), the only national and public university, showed the highest number among DE universities, 125.527, 11.01% of all Spanish undergraduate students. With respect to official European Higher Education Area (EHEA) Masters, the total number of students enrolled was 276.518; 91.403 in distance education universities, from which 81.823 were in the five private ones (data from Spanish Ministry of Science, Innovation and Universities, 2023).

Concerning the age of HE students, the 2023 OECD *"Education at a Glance report"* indicates that 83% of first-time entrants into tertiary education, in all OECD countries, are aged under 25, with an average age of 22 years (OECD, 2023a).

Based on data collected from Spanish universities for the academic year 2022-2023, Figure 1 illustrates the distribution of students across different age groups in Bachelor's and EHEA Masters programmes. The data show that there are significant differences between onsite and distance education universities, in terms

of the percentage of students aged '18-25' and '26+' in Bachelor's programmes, as well as '<30 and >30' in EHEA Masters programmes.

Concerning bachelor programmes:

- A majority (89.19%) of onsite students are 18-25 years old.
- Only a small portion (10.82%) of onsite students are over 26 years old.
- In contrast, for distance education, the majority (76.78%) are over 26 years old, while 23.22% are between 18 and 25. In the case of UNED, these differences were even more significant, reaching 80% of students over 26 years old, the majority being over 30 (53.11%).

Concerning EHEA Masters' programmes:

- A majority (75.25%) of onsite students are under 30 years old, and only 24.75% are 31 years old or above.
- Distance education shows a more balanced distribution, with 48.12% of students under 30 and 51.88% of students 31 years or older.

Overall, these data clearly indicate that onsite education is predominantly chosen by younger students (particularly those between 18 and 25 years old), whereas distance education universities show a significantly higher proportion of older students (26 years old and above, and particularly those over 30 years old), mainly at an undergraduate level.

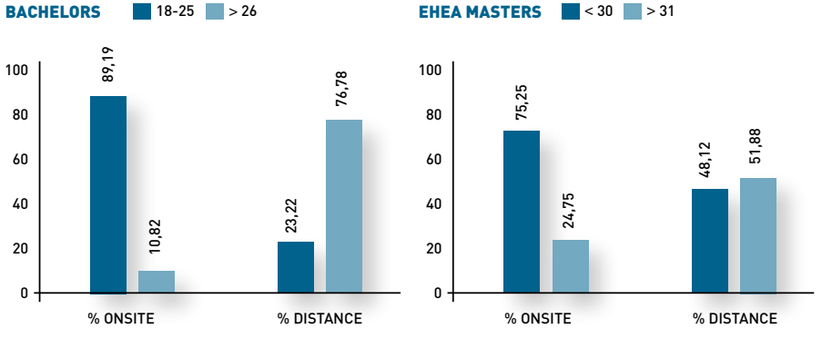

Figure 1. **Cumulative percentage of students for age ranges in Bachelors and EHEA Masters and type of university (onsite and distance)**

These statistics show that mature students who are returning to education later in life prefer formal distance education due to their need to balance studies with other responsibilities. At least three quarters of these students work, with almost half of them working full-time. Adult students are a diverse group and have different needs from the younger profiles of face-to-face universities. They require different approaches to accommodate their unique needs. They also tend to face greater difficulties due to the time that may have elapsed since they left school and require specific support. These figures are similar in other countries, although the minimum age for access to higher education may vary slightly. In addition, at UNED many undergraduate students already have a university degree, accounting for around 30% of the student population.

Another non-traditional student profile corresponds to adults who do not meet the requirements for access to higher education. Open and Distance Universities have already demonstrated extensive experience in providing educational opportunities to this type of student. Nevertheless, formal access to university education is determined by public policies in each country. In Spain, there are special access exams available for individuals over the age of 25 who have not completed their secondary education. This option has resulted in the creation of access courses delivered by universities that offer prior support to students preparing for these exams. These courses have proven to be a valuable resource for those seeking to further their education at any point in life. Additionally, adults aged over 40 and 45 have special access requirements based on the recognition of professional experience (UNED, 2020). In 2021-2022, 30,120 Spanish students enrolled in this type of second-chance courses, 26.25% of them at UNED.

With respect to gender, women have made significant strides in educational attainment globally. In 2023, notably, the OECD reports that there is no longer a single OECD country where women are not in the majority among first-time entrants to tertiary education (OECD, 2023a). However, there are still concerns about gender equality in recruitment, retention, and promotion of women within universities. Also, STEM fields continue to exhibit great gender disparities (UNESCO IESALC, 2022a).

The specific barriers that hinder women's access to higher education and promotion are multifaceted and can vary across regions and contexts, and include poverty, early marriage, familiar responsibilities such as child and elderly care, unpaid domestic work, biased policies and sociocultural norms, and lack of support systems, in general. Thanks to its flexible learning opportunities, distance education has largely contributed, and should keep contributing, to address these inequalities, accommodating the needs of women who may face barriers to accessing traditional campus-based education, thus promoting gender equality in higher education, and contributing to the achievement of SDG 5 on Gender Equality of the 2030 Agenda for Sustainable Development.

Education systems need to be also flexible and inclusive to accommodate functional diversity and disabilities. In Spain, a recent study reports that in the academic year 2021-22, the number of university students with disabilities represented 1.6% of the total student body. In addition, 51.9% of the students belonged to onsite universities, while 48.1% studied at one of the six distance learning universities, with UNED being the Spanish university with the highest number of disabled students (more than 6000), followed by the around 2000 of the UOC (Melián and

Meneses, 2022). The number of students with disabilities enrolled at the University is increasing, following the same trend as other similar universities, such as the Open University (UK) where it has tripled between 2003 and 2017 (Iniesto et al., 2016). Disabled learners need technical support, adjustments, and adaptations to ensure the accessibility of physical and online spaces and all learning resources to progress in their studies. The current statistics demonstrate the significance of the assistance provided by distance learning to individuals with disabilities. However, overall, universal and instructional design need to be implemented (Reyes et al., 2021; Krause et al., 2022).

Another minority group for whom distance learning is the only option are prisoners. A good example of how distance education supports this group with special needs is the *Spanish University Studies Programme in Penitentiary Centres* (PEUCP), the result of agreements signed between the General Secretariat for Penitentiary Institutions of the Ministry of the Interior and UNED. It is aimed at "raising the educational and cultural level of the national prison population by enabling them to access university studies through distance learning" (UNED, 2020b). UNED has the highest number of inmates studying at university level in Spain (Viedma, 2003). In the 2021/2022 academic year, 949 prisoners were enrolled in UNED higher education programmes.

The huge contribution of DE to inclusive HE can be found in the *Task Force on Diversity and Inclusion* (TFD-I) of the *European Association of Distance Teaching Universities*. Its 2022 report (EADTU, 2022) presents a variety of best practices that European ODL Universities use to promote inclusive online education. These practices include policies, support units, and programmes specifically designed to assist students with special needs.

Dealing with the diverse needs of HE students is a significant challenge, but it also represents a great opportunity for ODL universities to establish their position in the new HE ecosystem. They can achieve this by adhering to their traditional mission and deep social vocation which they have been working towards for many decades (Lane, 2017; Tait 2008, 2013) before the SDG4 was announced in 2015, following the principle of "leaving no one behind" of the 2030 Agenda for Sustainable Development (Sánchez-Elvira Paniagua et al., 2018). This spirit should continue to be its main driving force, as long as the number of students in higher education continues to grow. UNESCO has recognised the need for the contribution and expertise of ODL on various occasions, such as the Incheon Declaration for the implementation of SDG4 (UNESCO, 2015, Target 3, point 43, p.41) and the 2022 roadmap for higher education in a post-pandemic world (UNESCO, 2022b).

Digital Distance Education and HE without boundaries

HE institutions need to redefine and prioritise lifelong learning, recognizing the importance of continuous professional and personal growth, and becoming lifelong partners (DeMillo, 2018). This requires a continuous and agile up-skilling and re-skilling of individuals to adapt the workforce to achieve a just and inclusive transition towards a green and digital world (OECD, 2022, 2023b). It also involves an unbundling and re-bundling of educational opportunities according to individual and societal needs (Czerniewicz, 2018; Pachler, 2023). However, strong, flexible, and rapid institutional adaptability is essential to meet the needs of part-time learners who prefer short, focused training that is easily recognised and valued in the workplace to improve their job prospects (Sánchez-Elvira Paniagua, 2022; Sánchez-Elvira Paniagua et al., 2018).

These new learning scenarios are accelerating the drive towards the so-called micro-credentials, which provide flexible, learner-centred, and targeted ways to develop the knowledge, skills, and competences needed for personal and professional development (Czerniewicz, 2018; Casanova et al., 2023; McGreal & Olcott Jr., 2022; Sánchez-Elvira et al., 2022; Varadarajan et al., 2023). A clear example of this goal is the Council of the European Union's 2022 Recommendation on a *European approach to micro-credentials for lifelong learning and employability* (Council of the European Union, 2022), which emphasises that by 2030, European citizens should be able to start a learning pathway to and through higher education at any point in their lives.

In supporting non-traditional students under a life-long perspective, ODL institutions also need to adapt and innovate their academic provision. Nevertheless, the ability to innovate, transform, and adapt has always been one of the main characteristics of ODL (Bates, 2022b). Given the significant number of distance learning students who are employed, ODL institutions are well prepared and equipped to take the lead on redesigning curricula in different disciplines, offering new flexible training opportunities adapted to part-time students, and fostering a workforce and citizens well versed in sustainability principles and practices to cope with current global challenges (Tait, 2018; Thaler & Bastiaens, 2017). The EADTU *Modularisation of Continuing Education and Professionalisation by Micro-credentials project* (EADTU, n.d.a), whose partners are leading European Open and Distance Teaching Universities, is also contributing to the further conceptualisation of micro-credentials and transformative institutional developments in interaction with national and EU policies and frameworks. In Spain, UNED was the first university to launch micro-degrees in 2021, leading to 21 micro-degrees and two micro-masters in its academic offer in 2023-2024.

Digital Distance HE without borders

Internationalising higher education is crucial for equipping students and institutions with the skills and knowledge needed to succeed in an interconnected world, being a current strategic priority for universities and governments. Digital distance education can play a crucial role in promoting inclusive and accessible internationalisation of HE. While not exhaustive, we can identify several lines of action they can contribute to this main goal.

Virtual Mobility

International student mobility is an important goal in higher education. However, physical mobility has been a major obstacle in accessing international learning opportunities. Despite an increase in recent years, only 2.6% of the world's student population currently benefits from studying abroad (UNESCO IESALC, 2022b). This issue is even more pronounced for non-traditional students enrolled in distance education programmes.

On the contrary, *Virtual Student Mobility* (VSM), defined as "a form of mobility that uses information and communication technologies to facilitate cross-border and/or inter-institutional academic, cultural, and experiential exchanges and collaboration" (UNESCO IESALC, 2022b, p.6), introduces a flexible and innovative approach to internationalisation, bridging geographical gaps, fostering global learning experiences, inclusiveness and democratisation of the access of students to international education and experiences (Ruíz-Corbella et al., 2021) by "moving minds" (UNESCO IESALC, 2022b). Accordingly, Mittelmeier et al. (2021) propose a third category of internationalisation which differs from the traditional categories of *Internationalisation Abroad* (IA) and *Internationalisation at Home* (IH); *Internationalisation at a Distance* (IaD), defined as "All forms of education across borders where students, their respective staff, and institutional provisions are separated by geographical distance and supported by technology" (p.5).

Virtual mobility has expanded after the pandemic experience, showing the benefits not only in terms of promoting intercultural experiences, socialisation competencies and multilingualism but also in making international learning experiences more sustainable. The reports of the EADTU *Task Force on Virtual Mobility* (EADTU, n.d.b) present the different modalities and integration of mobilities and international learning experiences in the students' curriculum from which ODL students can benefit.

A major step forward in internationalisation is the recognition of credits and qualifications across borders. In 2019, UNESCO adopted the *Global Convention on the Recognition of Qualifications concerning Higher Education* (UNESCO, 2019). By ratifying the Global Convention, countries commit to strengthening international cooperation in HE, improving the quality of HE in their countries and worldwide, and facilitating academic mobility and recognition of qualifications for millions of people worldwide. As of early 2024, the Global Convention has been ratified by 27 countries, but there is still a long way to go.

Following HE courses from anywhere

On another level, ODL institutions make it possible for students living abroad to pursue their studies wherever and whenever they need to, whether they don't live in their own country, have to live abroad for a period of time, or are foreign students enrolled in an online course in another country. UNED has 13 centres and 10 classrooms in different countries where guidance and learning resources are available and compulsory face-to-face exams can be taken. In 2022-2023, more than 3.400 students were enrolled in UNED EHEA degrees around the world.

International cooperation of ODL universities

One way forward for open and distance universities is to create and consolidate large alliances of networked universities, given their extensive experience in flexible and digitally networked operation (Giga-universities, Teixeira 2021). That is, strong digital and interconnected ecosystems, strengthening and expanding all current and future lines of action and objectives, linked, moreover, to the social mission that has always characterised them (Ramírez-Montoya et al., 2022). This objective is aligned with the European Union's commitment to the creation of large European alliances of universities (European Commission, n.d. b). The OpenEU consortium (The Open European University, n.d.), which brings together 10 leading European universities in the field of Open and Distance Learning, including UNED and Universidade Aberta, is part of these European alliances and thus promoting and shaping the future of European ODDE and the contribution of ODL institutions to the internationalisation of HE.

Towards personalised learning in massive environments with AI: the next generation of Digital Distance Education in HE

Many of the world's traditional ODL institutions are mega-universities (Daniel, 1996) with more than 100.000 students. Over-enrolment in educational institutions can lead to a decline in the quality of education, as well as a lack of adequate individual support from academics and tutors. To this must be added the traditionally high drop-out rate of distance learning students (Sánchez-Elvira & Simpson, 2018; Simpson, 2002). Although ODL institutions should take advantage of current opportunities offered by learning platforms, and lessons learned in massive online environments such as MOOC (Sánchez-Elvira et al., 2018), nevertheless, it is worth noting that formal distance learning programmes require continuous and close student support through tutoring, interaction, and follow-up, as well as a more complex process of assessing learning outcomes than MOOCs.

Artificial intelligence (AI), with its broad range of tools, can accelerate a shift in ODL institutions, from crowded universities to large learning environments, due to its ability to provide enhanced student support systems categorised into four main areas: profiling and prediction, intelligent tutoring systems, assessment and evaluation, and adaptive systems and personalisation (Zawacki-Richter et al., 2019). By using big data and learning analytics, for instance, institutions can offer "just in time" support, predict dropouts and improve retention, provide instant automated personalised assessment, and offer unbiased formative feedback; chatbots and virtual assistants can also offer further 24/7 individual support. This is especially

relevant for mega-institutions that can take advantage of their size to gather large datasets of student data to identify patterns of success and failure and develop support measures. These technological advancements can pave the way for a new generation of distance education. The incorporation of AI is not only about students' learning, but also about promoting their well-being, as well as improving the functioning of teaching and administration (Stojanov & Daniel, 2023). However, according to recent reviews (e.g. Bond et al., 2024; Zawacki-Richter et al., 2022), the implementation of AI in higher education still lacks connection to theoretical pedagogical models and it requires more rigorous research. In addition, ethical approaches also need further examination, being addressed by organisms such as UNESCO (Miao et al., 2021).

In this context, in 2018, UNED embarked on a four-year strategic plan to drive further steps on the digital transformation of the university. Recognising the opportunity to leverage its large scale, the main objective was to create an adaptive and personalised learning model to uniquely support students. This roadmap is primarily manifested in the ongoing ED3 project (Digital Distance Education based on Data). The project aims to create a framework that employs data to enhance teaching and learning through intelligent and ethical evidence-based interventions, following an established ethical data usage framework (González-Boticario et al., 2021).

Since 2023, a more profound global disruption has occurred due to the emergence of Generative Artificial Intelligence (GenAI) in our lives, with great impact on education. GenAI is already here, and nothing will remain the same. GenAI raises many questions and debates regarding its pace of development and consequences and forecasts a major leap forward to a still unknown and unpredictable future in the field of education (Alier et al. 2024, García Peñalvo et al. 2024). Calls for guidelines to respond to the need for international regulatory policies for the ethical use of AI have been made. In this line, UNESCO emphasises the importance of prioritising safety, equity, quality, and inclusion when using AI tools, including both analytic and generative AI, in education (Miao et al., 2021; UNESCO IESALC, 2023; UNESCO 2023).

Distance education universities need to explore the possibilities offered by GenAI in massive learning environments and take advantage of its utilities. For instance, among other benefits, according to Bozkurt & Sharma (2023), GenAI can enhance the mediated didactic dialogue by providing continuous formative feedback, creating personalised pathways, and promoting more opportunities for student self-control and autonomy. It has also been observed that there is a likely reduction in the required learning time, which would be a significant benefit for part-time distance education learners (Möller et al., 2024). As many other institutions worldwide, UNED has already shown its commitment to the GenAI challenge by publishing user guides for teachers and students and offering training courses[1].

The impact of GenAI is far-reaching and impacts everyone and all institutions. We are currently at a turning point where educational institutions still lack prior experience with its potential and implications. Collaboration is crucial to navigate the uncertainties and challenges that we face. Though we are in uncharted territory, it is undeniable that we have an exciting future ahead of us. This future demands that we rethink in innovative ways what teaching and learning should be, so that higher education can continue to be an essential agent in the development of the necessary capacities for the success and well-being of all individuals and societies. Undoubtedly, Distance Education Universities will be onboard.

1 *https://www.uned.es/universidad/inicio/institucional/areas-direccion/vicerrectorados/innovacion/iaeducativa.html*

4.6. INSTITUTIONAL STRATEGIES TO ADDRESS ARTIFICIAL INTELLIGENCE IN DISTANCE EDUCATION

Mychelle Pride, Academic Director, PVC Students at The Open University UK

1. Introduction

The impact of any new technology means entering uncharted territory for most higher education institutions (HEI). In some cases, this is on a small scale with manageable risk and impact. However, in the case of Artificial Intelligence (AI), and specifically now Generative AI, the stakes appear considerably higher and the challenges and opportunities unlimited. When Generative AI tools such as ChatGPT and Google Bard were released from November 2022, in addition to 'what is the impact?' staff were asking:

- Will it take our jobs?
- What will be the value of our degree?
- Will it damage our reputation?
- Will Universities still exist?
- What do we actually know?

There was a lot of hype and a lot of hysteria.

AI is not new, having existed since the 1960s. For years, many HEIs have been researching AI, machine learning and natural language processing (Bond et al., 2024; Vaswani et al., 2017). The most recent technological advances and the wider access afforded to the public through Generative AI tools necessitate responsive institutional strategies. Tools are continually developing and coming into the public domain including tools for imaging, tools aligned to search engines, and plugins for subjects such as maths, science, languages, media and business. The genie is out of the bottle – and we can't put it back in. Therefore, institutions need to develop well thought through institutional strategies for Generative AI in higher education (HE).

2. Responding to the Generative AI in HE continuum

In this section, the Generative AI in HE continuum will be introduced along with a suggested position formulation guide for developing an institutional response including a position statement and enabling principles.

The continuum

At the highest level, an institution's response to Generative AI in learning, teaching and assessing sits along a continuum. The use of Generative AI can range from full prohibition of the use of tools to a 'green light culture' that fully embraces the use of technology and tools, and everything in between.

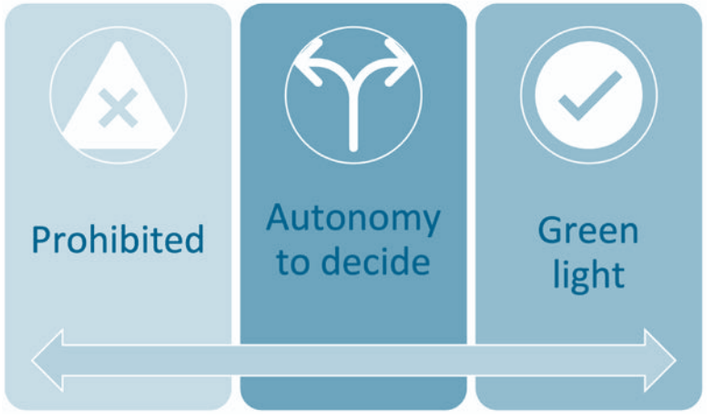

Figure 1: Generative AI in Learning Teaching and Assessment in Higher Education Continuum

Prohibition of the use of Generative AI tools can be applied to staff and students or just certain groups. Autonomy to decide means that different stakeholders at different levels within the institution, such as faculties, departments, module teams, or individual academics are given the autonomy to make a decision for their own context. A green light culture is one where the institution actively promotes the opportunities Generative AI affords, undertakes research into the possibilities technology may present, and potentially develops their own tools and Generative AI applications and plugins or purchases tools and plugins for students and staff to embrace and use.

Senior leaders need to decide where on this continuum their institution sits and need to produce a position statement that articulates this clearly for all students and staff. Regardless of the decision, it will need to be operationalised. A set of enabling principles should be developed that can underpin the institution's operationalisation of the position statement. Several HEIs and school districts initially made the decision to ban the use of Generative AI tools by students and staff and most of those have since shifted to the right of the continuum (Xiao et al., 2023). Other institutions left this decision to faculties, departments or staff producing learning content (Martinez & Mezitis, 2023). The University of Michigan (Michigan, 2023) is an example of a green light culture where the institution very quickly developed and promoted three different levels of tools to staff and students.

Positioning the institution

The initial decision about the institution's position could be undertaken by any of the following:

- University council or senate or equivalent governance body
- Senior leadership team
- Pro-vice Chancellor office or equivalent
- A specifically formed task and finish group
- Learning and teaching unit

To determine the position on the continuum and subsequently produce a position statement, enabling principles and guidance, there are ten critical questions to answer which are set out in the following position formulation guide.

TABLE 1. POSITION FORMULATION GUIDE

1	What is the tone? Is the institution's approach formal and risk averse or bold and embracing, something else?
2	Can students use Generative AI tools or not? If yes, a. In what ways can students use Generative AI tools i. in their tutorials? ii. as a study aid? iii. to produce their assessments? b. How should students reference the use of Generative AI? c. What information do students need to provide if they have used Generative AI in their learning or assessment?
3	Can staff use Generative AI tools or not? If yes, a. In what ways can staff use Generative AI tools i. to produce curriculum content? ii. in delivering their tutorials? iii. as part of learning activities? iv. in producing assessment? v. in marking assessment? b. Are staff allowed to put the institution's materials into commercial Generative AI tools?
4	In what order should the position statement, enabling principles and guidance be written?
5	Does the institution require a new Generative AI policy, or do existing policies already incorporate AI sufficiently?
6	Should the institution provide a single position statement for students and staff, or two separate statements?
7	Does the institution want to start with student guidance or staff guidance? There is a risk to writing both at the same time and producing contradictory guidance.
8	What documents will be published in the public domain and what will be internal only?
9	How can the institution evolve as technology evolves?
10	How can the position statement, enabling principles and guidance evolve to remain current?

Once these questions have been answered, it is possible to write a high-level position statement outlining where on the continuum the institution sits. The questions in this position formulation guide could be used for any disruptive technology.

Enabling principles

It is useful for an institution to clearly set out enabling principles that can underpin developments in the use of Generative AI in learning, teaching and assessing. Following the emergence of Generative AI tools in the public domain, several institutions and HE organisations published their enabling principles (*Group of Eight*, 2023; Hack, 2023; *The Russel Group*, 2024). Across these, there are 6 key areas appearing in most organisations enabling principles:

1. Clear guidance
2. Empowered users
3. Ethical usage
4. Equitable access
5. Academic rigour and integrity
6. Collaboration

1. Clear guidance

Staff and students want and need clear guidance and ongoing support. Guidance must be maintained to ensure currency. It may be that an institution provides guidance in stages as technology evolves. Guidance that is no longer current should be removed. Some institutions have chosen to produce and publish student guidance before anything else and this makes sense as students are actively using Generative AI. When guidance is lacking, students will make their own decisions as to what is ethical and responsible usage or for some, what constitutes cheating.

2. Empowered users

It is the responsibility of the institution to ensure that staff and students are empowered to use Generative AI responsibly, ethically, and legally. This includes providing training and research opportunities. It is highly recommended to provide a safe place and allocated time for staff and students to experiment and learn.

3. Ethical usage

There are multiple ethical challenges and associated risks regarding the use of Generative AI in higher education (Sabzalieva & Valentini, 2023). Institutions must transparently emphasise ethics and trust, and work with staff and students to set institutional context and understanding. All resources developed must be framed through an ethical lens. For some subject areas, such as the Arts and Social Sciences, ethical and legal challenges are playing out in court (Brittain, 2023; Hillel, 2023). Findings will impact HE, particularly regarding staff willingness to use tools and how institutions prepare our students for future employment.

4. Equitable access

The use of Generative AI in learning, teaching and assessing must be anti-racist, anti-discriminatory, accessible, and inclusive. Even though efforts are being made to mitigate against bias and discrimination in the development of Generative AI tools, the impact of inherent bias in large language model training sets must be considered. Issues around fair access to technology and digital inclusion need to be considered and addressed, particularly regarding students. There are legitimate sector concerns that Generative AI will widen the digital poverty gap.

5. Academic rigour and integrity

The use of Generative AI in assessing does not automatically equate to academic misconduct. It is imperative that institutions clearly set out academic conduct policies and procedures that incorporate responsible and ethical use of Generative AI, while providing students and staff sufficient time and support to reinforce positive academic conduct as it relates to Generative AI. An institution may decide that their existing academic conduct policies cover AI sufficiently, may adapt an existing academic conduct policy, or may decide to have a separate Generative AI policy. However, with the speed of Generative AI evolution, a specific Generative AI policy may become outdated quickly.

6. Collaboration

All HEIs are facing the challenges and opportunities presented by Generative AI. It is important that institutions share best practice and lessons learned with one another. In the first instance, publishing position statements, enabling principles and guidance in the public domain will encourage sharing and learning.

3. Challenges and lessons learned

In this section, on a macro level, the challenges in developing institutional strategies to address AI in distance education will be identified and discussed. On a micro level, the lessons learned from leading an institutional response to Generative AI in learning, teaching and assessing will be provided.

Challenges

Generative AI is the hot topic, and as such, *everyone wants to be involved*. It is a minefield navigating who can contribute what. Staff and students hold polarising views as to how Generative AI should and could be used. It is healthy to hear opposing views, and those in between, when determining an institutional position, but this can lead to prolonged discussions in which it is difficult to find compromise or middle ground.

For some staff, the immediate and only position is that *Generative AI equates to academic misconduct and promotes student cheating* (Illingworth, 2023). Some staff will want to ban the use of Generative AI. However, as noted above, the genie is out

of the bottle, students and staff are using Generative AI and it is next to impossible to enforce a total ban. If an institution chooses to prohibit the use for students, they must also think about whether to ban the use of Generative AI for staff.

The pace of technology is relentless. No matter how much one person reads or researches, it is not possible to keep abreast of Generative AI advances. No one really knows what is coming. Therefore, any institutional response will require agility.

Many distance HEIs operate at a large scale. *Managing an institutional approach at scale is challenging* and multiple pockets of Generative AI activity will inevitably arise. Coordinating across the institution and ensuring staff are following the strategic direction is complex, particularly at a distance. Time and resource requirements can be intense. Institutions must decide whether and how much to invest in their institutional strategy or whether what is needed can be built into existing workload and resources. Within the student population, a digital divide exists, and this could worsen as Generative AI technical requirements increase.

An additional challenge for distance learning institutions is not seeing students in person. Challenges have always existed to verify who the students are and whether they are submitting their own work. This is even a more pertinent challenge in the age of Generative AI, and staff are genuinely concerned about potential rising academic misconduct rates. However, it is important to remember poor academic conduct has always existed, and a small percentage of students will attempt to pass off work that is not their own as their own. Overall, most students are honest and want to learn. Good teaching will lead to good learning.

And ultimately, with every day passing, more *students are using Generative AI*. It is a challenge for staff to maintain their currency. For several reasons, some staff are not using Generative AI yet. This includes:

- Fundamental misunderstanding of how the technology works
- Ethical opposition
- Lack of time
- Not knowing where to start
- Anxiety

Lessons learned

In the author's experience of leading an institutional response to Generative AI in learning, teaching, and assessing at a large distance education institute, several lessons have been learned.

Staff engagement

In surveying more than 150 staff informally at the Open University UK, staff use of Generative AI can be categorised in the following ways.

TABLE 2: STAFF USE OF GENERATIVE AI AT A DISTANCE HIGHER EDUCATION UNIVERSITY IN 2023

Learning and teaching	Experiment with curriculum writing Create images, figure descriptions, automated voices Produce quizzes for module material Produce a script to plan a film Create case studies Produce Word clouds Language translation Experiment with students
Assessment	Generate assessment ideas Experiment with assessment types Write draft assessment material Test how it can provide feedback to students
Other work related	Design a questionnaire Produce interview questions Write a keynote introduction Produce a CV Write emails Develop policies Create summaries of meeting recordings Produce an outline for a presentation Code writing and assist with debugging Plan and structure press releases
Writing skills	To edit work Draft wording for reports Experiment how to improve writing of various types Rewrite text struggling with Check logic of sentences
Thinking	Idea generation Problem solving Refresh memory on a process

It is undeniable that staff are experimenting. The lesson learned here is the importance to engage with staff early and often to understand how they are using the technology. Create a positive environment that supports the agreed strategic approach and also provides permission and resources (time, money, training) to experiment within acceptable parameters. Introduce a community of practice for Generative AI as it relates to learning, teaching, and assessing. The community of practice can serve multiple purposes: educating, sharing knowledge and arising practices, enhancing cross-institutional collaboration and facilitating effective change. The knowledge and networks created within the community of practice can then be brought back into units to extend how staff engage with Generative AI.

Co-creating with students

Students, like staff, are using Generative AI in many ways. A recent study of UK undergraduate students (Riddle, 2023) found more than half the students surveyed use Generative AI to help with assessment. The majority think using Generative AI as a study buddy is acceptable. Most students think that staff can detect Generative AI in students' work. While students note their institutions do have Generative AI usage policies, only 22% are satisfied with institutional support and only 9% of students surveyed said their institutions had fundamentally changed assessment. An internal student consultation in the Law School at the Open University found that students are optimistic about the role Generative AI will play in the legal profession and understand the need to develop their own skills to gain competitive advantage. They too want more institutional support.

And of course, there are students who are using Generative AI in a manner that contradicts good academic conduct. Therefore, it is beneficial to bring students into policy discussions and decisions as early as possible. Students bring a different perspective that is real and can challenge institutional thinking to improve it. Students are also able to use language that is student relatable, to cut through institutional speak, and are able to make the key messages and policy meaningful and accessible.

Producing guidance

Attempting to produce student and staff guidance simultaneously is potentially confusing and could lead to conflicting advice. Therefore, before any guidance is produced, permissible and responsible student use should be agreed, and any deviation from student usage for staff should also be determined. Different guidance may be appropriate for different level students or different modes of study. External professional, regulatory or statutory bodies may have different expectations, and these must be followed within an institution, so exceptions to institutional guidelines for students may be required.

Staff guidance will be needed for different contexts such as staff who teach students, staff producing curriculum, module results panels, exam boards etc. Guidance will be needed for any teams that support students, especially frontline student support. Coordination with any student union or association is essential. It is beneficial to write and publish in stages and consistency across the multiple guidance documents must be maintained. Not only will technology evolve, but so may the institution's mindset and approach to Generative AI usage. Therefore, guidance evolution and production must be agile.

4. Now and next

This section introduces the assessment challenges the sector is facing and considers the characteristics, behaviours, and expectations of the student of the future.

Assessing in the short-term

Consideration of assessment must be included in an institutional response to Generative AI. Sharples (2023) states every good pedagogy could be augmented by AI for example by generating ideas, co-designing learning materials, structuring and defending arguments, acting as a study buddy and producing quizzes to check learning. There is no doubt institutions are realising the pedagogical opportunities and are harnessing Generative AI's potential.

Assessment in many institutions has not changed dramatically in years. Generative AI provides a much-needed springboard for modern and innovative approaches to assessment (Mao et al., 2024; Moorhouse et al., 2023). In the first instance, institutions must determine why they are assessing – what is the purpose? and can build from there. Fundamentally changing assessment will take time. In the meantime, there is serious concern regarding misuse of Generative AI in assessment, and much scholarship and research is being undertaken (Ajevski et al., 2023; Moorhouse et al., 2023; Richards et al., 2024). In the short-term, there are adaptations that can be made to mitigate against misuse. Generative AI is evolving, but as of 2023, application-based problem-solving assessment that requires critical thinking and application of knowledge seems to provide some challenge for the tools. Collaborative activities and complex case studies with built-in use of Generative AI are proving popular ways to enhance learning and provide role modelling of responsible and ethical usage (Hack, 2023; Sharples, 2023). Working with students to co-create assessment they want to do, will also mitigate against the misuse of Generative AI tools.

As educators, it is our privilege to empower students to find their own voices and use them effectively. A student's own voice should be much more powerful than a narrative produced by Generative AI. Assessment that involves iterative drafting using Generative AI tools can aid the evolution and empowerment of a student's own voice whilst teaching responsible usage.

Student of the future

As technology evolves, institutions must consider who their students of the future might be. What characteristics might this student have? They are likely to be technologically smart and globally aware. Given all the challenges future students will face, they will be resilient and will be problem articulators and solvers. Challenges students of the future will face are not dissimilar to now such as financial concerns, rising mental health and poor wellbeing, time management and unknown job market dynamics. A higher percentage of students may be in work, part- or full-time. Students may have different expectations of their institutions. They will want flexible learning pathways, adaptability and lifelong learning. Curriculum needs will change too. Generative AI will not replace jobs, but staff who do not know how to use Generative AI will lose their jobs. In addition, and perhaps predominantly, students will need to develop and evidence human, soft, and interdisciplinary skills (Pölönen & Witesman, 2021). Students will need to do the skills machines do not have.

Conclusion

The genie is well and truly out of the bottle. Generative AI is here, and the opportunities seem endless. Institutions must take a strategic approach for the use of Generative AI in learning, teaching and assessing. Students and staff need to know what constitutes responsible, ethical, and legal use of Generative AI and what is acceptable for a specific institution. If they haven't already, institutions must set out their position, enabling principles and produce guidance for students and teaching staff. Institutional answers to the ten questions in the Position Formulation Guide provide a solid foundation upon which to develop a strategic approach.

Higher education institutes that deliver supported distance education face additional challenges. Many are large and complex organisations, making adherence to institutional guidance difficult to monitor. Distance education students may reside in remote areas with limited internet access. Generative AI advances may require more resources, and the better tools will cost more, potentially widening the digital divide. Assessment is a particularly thorny issue, as staff are concerned about potential rising academic misconduct rates. Innovation in assessment is needed to mitigate against this, and Generative AI could be used to enhance feedback to students.

Institutions need to consider short, medium and long-term strategic approaches to engaging with Generative AI. There is now a genuine opportunity for distance HEIs to revolutionise their learning, teaching, and assessing and evolve to meet the needs of the student of the future. Yes, Generative AI is instrumental, but this cannot be achieved with human expertise.

4.7. INTERNAL QUALITY ASSURANCE FOR DIGITAL HIGHER EDUCATION

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Introduction

Since the COVID-19 crisis, digital higher education practices have become integral to higher education in Europe. Three main digital education settings have emerged and are now establishing themselves: synchronous hybrid, blended, and online distance learning.

The European Standards and Guidelines for Quality Assurance (ESG, 2015), along with the Considerations on E-learning (Huertas et al., 2018) are currently applicable to digital education. These standards apply to both internal and external quality assurance processes.

This chapter describes multi-level and multi-stakeholder approaches needed for comprehensive internal quality assurance in line with a recent OECD report. In addition, institutions need a framework to drive and enable leaders and staff in systematic change processes after quality assurance assessments. The E-xcellence and EMBED instruments are introduced for internal quality assurance and mature decision making.

Furthermore, this chapter addresses emerging quality assurance challenges in response to the evolving landscape of higher education (HE). These challenges include developments in educational technology such as Artificial Intelligence (AI), the internationalisation of curricula and virtual mobility - particularly within European University alliances, and new institutional structures for continuing education offering micro-credentials. All necessitate proactive quality assurance measures.

1. Post-COVID developments in European higher education

Digital higher education settings

Recent studies in the framework of the European Commission's Digital Education Readiness Initiative revealed three main digital education settings for HE during and after the COVID-19 period at various European universities: synchronous hybrid, blended learning, and online distance education (EADTU, 2023c). These sustainable settings are described as follows:

- **Synchronous hybrid learning:** based on course design in which both on-site or "here" students and remote or "there" students are included simultaneously (Raes, A., Pieters, M. & Van de Plas F., 2022a, 2022b).
- **Blended learning:** based on a course design with a deliberate combination of online and offline learning activities (Wahls, N., Dijkstra, W. & Oudehand, M., 2022; Oudehand & Dijkstra, 2023).
- **Online distance learning:** babased on a course design with a continuous physical separation between teacher and student (Sangra et al., 2022a, 2022b).

The institutions examined use all three settings to some degree, depending on factors such as the type of students and courses, the personal preference of the teaching staff, or the institutional culture. Open and distance universities primarily use an asynchronous online distance setting to provide flexibility for working students.

The adoption of online and distance learning

In Europe, the number of dedicated open and distance teaching universities remains fairly constant, with about a dozen spread across various countries. They are well-established institutions: these are Universidad Nacional de Educación a Distancia (UNED, Spain), the Open University (OUUK), Anadolu University (Turkey), FernUniversität in Hagen (Germany), Open Universiteit (Netherlands), the International Telematic University UNINETTUNO (Italy), Hellenic Open University (HOU, Greece), Open University of Cyprus (OUC), Universidade Aberta (UAb, Portugal), Universitat Oberta de Catalunya (UOC), Open University of the University of Jyväskylä (Finland), and Uni-Distance Suisse.

As interactive educational technologies and media become increasingly available, open and distance teaching universities now incorporate more blended and synchronous elements into their predominantly online distance learning settings.

Traditional universities often fill the gap where there are no specific distance learning institutions, offering remote courses alongside their regular ones. This increases flexibility and inclusivity in HE, catering to students unable to attend physical classes. These universities are often collaborating in associations dedicated to online and distance education, such as the Fédération Interuniversitaire de l'Enseignement à Distance (FIED) in France, which includes 21 universities, each having a Centre de Télé-Enseignement Universitaire (CTEU), offering a range of courses (EADTU, 2023b).

Traditional universities also provide numerous Massive Open Online Courses (MOOCs) through platforms belonging to the European MOOC Consortium (EMC, n.d.), and through Edx (Edx, n.d.) or Coursera (Coursera, n.d.). EMC includes platforms like Futurelearn (UK), FUN MOOC (FR), AI Campus (GE), iMooX (AU), NAU (PT), OpenHPI (GE), and OpenupEd. Traditional universities also organise digital micro-credential and degree programmes using one or more of the three digital education settings mentioned, particularly in fields with labour shortages (e.g. education, healthcare, or information technology)

In the course of the COVID-19 pandemic, traditional universities that are members of the European University Initiatives (EUIs) (European Commission, 2018) were required to set up joint microcredential and degree programmes in digital educational settings, including digital mobility for students and teaching staff. They continue to use digital solutions.

Through the rapid shifts to online learning and the development of educational technologies and media, digital education has become the cornerstone of HE strategies in most European universities. However, traditional universities may struggle with developing institutional frameworks and innovative course designs for digital education, even more when it comes to creating flexible and scalable courses and business strategies for continuing education. Collaborating with open and distance universities can lead higher education systems to evolve and adapt to the needs of society.

Continuous professional development

The process of quality assurance should be complemented by the continuing professional development of both staff and leaders.

The DigiTeL Pro partners developed three course modules, each addressing one of the three settings of digital education, with a focus on Continuing Professional Development (CPD) for digital HE aimed at university staff and leadership. Collectively, these modules constitute a comprehensive CPD programme. All course materials, along with a user manual, are freely available for individual staff use or for integration into CPD initiatives of educational support services (EADTU, 2023d). These three course modules were also in peer learning trajectories on the European Digital Education Hub (EDEH). This hub is an initiative of the European Commission aimed at sharing expertise and improving the quality of digital education (European Commission, 2023).

To scale up innovation, DigiTeL Pro universities have also developed robust institutional strategies and frameworks for digital education, including funding, which is needed to create the necessary conditions for high quality digital education (EADTU, 2023a). In these frameworks, strong intermediary support services are essential such as the KU Leuven Learning Lab, TU Delft Teaching and Learning Services and Teaching Academy, and UOC e-Learning Centre (EADTU, 2023b). DigiTeL Pro also resulted in a set of recommendations for the management of digital higher education, contributing to the conditions for high quality teaching and learning (EADTU, 2023c).

2. Quality standards and benchmarks for digital higher education

Digital HE has to meet quality standards. The common Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), developed by the European Network for Quality Assurance Agencies (ENQA), provide the reference framework for both internal and external quality assurance in HE. These standards, along with additional considerations for their application on e-learning, are equally applicable to digital education.

ESG Standards and guidelines

The European Network of Quality Assurance Agencies (ENQA) has established common "Standards and Guidelines for Quality Assurance in the European Higher Education Area" (ESG, 2015). These guidelines are implemented by internal quality assurance services within universities, as well as by national external quality assurance agencies. This common approach facilitates discussions among universities and quality assurance bodies.

The ESG views quality as a result of the "interaction between teachers, students, and the institutional learning environment". Quality assurance ensures that "programme content, learning opportunities, and facilities are suitable for their intended purpose". It encompasses all activities within the continuous improvement cycle of higher education institutions and is applicable to all forms of teaching and learning.

However, a study conducted by the European University Association (EUA, 2018) on e-learning in HE revealed that only 23% of national quality assurance agencies specifically addressed e-learning. In contrast, 91% of the surveyed institutions had incorporated e-learning into their education, with 82% offering online learning courses (Gaebel et al., 2014). The quality assurance of these provisions received significantly less attention during that period, highlighting a clear deficiency.

To address the challenges posed by "teaching methods driven by ICT", ENQA established the Working Group on Quality Assurance and E-learning in 2016. The primary objective was to ensure that quality assurance agencies remained well-equipped to keep pace with new developments and innovations in education. The Working Group systematically examined the applicability and relevance of each standard outlined in the ESG 2015 for e-learning.

The conclusion was that, while each standard seemed fully applicable to e-learning, some appeared to need specific guidelines for their application on e-learning. Following an intensive meeting with relevant e-learning stakeholders, the Working Group developed some specific guidelines for using the ESG for e-learning offers. This was published in "Considerations for Quality Assurance of E-learning Provisions" (Huertas et al., 2018), which since then is applied by quality assurance agencies and universities.

During that time, only the term "e-learning" was commonly used. It primarily referred to learning organised on local learning platforms, rather than online via the internet. Online learning, on the other hand, relies on internet-based platforms and allows for synchronous activities like live lectures, assignments, and assessments. Lessons in online learning can occur in real-time, with communication facilitated through audio, video, or interactive whiteboard features. Additionally, teaching staff have the flexibility to use pre-recorded videos or audio asynchronously. Unlike e-learning, online learning fosters real-time interaction between teachers and students.

Recently, ENQA developed "Approaches to Quality Assurance of Micro-credentials" (ENQA, 2023). This report provides an overview of the state of play of policy developments and presents latest information on various initiatives and activities related to the quality assurance of micro-credentials in the European Higher Education Area (EHEA). It specifically explores different national policies as well as practices by quality assurance agencies and higher education institutions, and positions these within the European policy context.

Global context

The Quality Network of the International Council for Distance Education (ICDE) published its 2023 annual report providing an updated status of the adoption and implementation of online and distance education in the respective regions in the world. This report also examines national and regional quality standards, accreditation and licences, and shares the good practices from key players across the world (Alhaj Ali, 2024).

The OECD Education Working Paper on quality standards for digital HE has analysed the standards and indicators for digital higher education developed by QA agencies world-wide and identified trends and best practice from HEIs for the quality management of digital study programmes (Staring et al., 2022).

This review suggests eight key principles for quality assurance which can lead the future development or adjustment of instruments:

- institutions should develop a mission, vision, and strategy for digitalisation and innovation;
- an organisational quality culture centred on digitalisation, innovation and collaboration;
- an appropriate digital education infrastructure;
- assure the quality of digital course content, design, delivery and assessment;
- support and incentivise staff professional development;
- prepare and support students for digital learning;
- monitor the quality of digital teaching and learning; and
- strengthen feedback and monitoring practices.

Taking initiatives on quality assurance for digital education, these principles should be embedded in future quality assurance efforts.

3. Quality assurance lenses

Quality assurance framework instruments and conditions for innovative changes, based on quality assessments and higher education should align with OECD key principles. Therefore, different lenses and perspectives should be included (Ubachs & Henderikx, 2023).

Multi-Stakeholder Perspectives

From the point of view of quality assurance and quality improvement, it is important to take into account the perspectives of the different stakeholders. Stakeholders include all internal actors within an institution such as institutional leaders, students, and staff, as well as external stakeholders such as enterprises, professional organisations, regions, and governments. Examples of such perspectives are as follows:

- **The learner's perspective**, related to dimensions such as the learner's readiness for online learning, the digital learning environment and learning resources, flexibility, and student support;
- **The perspective of the teaching staff and programme board**, related to organisational conditions for digital course and curriculum design, the suitability of the learning environment for various digital pedagogies, the availability of media and tools, frameworks for international course collaboration and virtual mobility, and tools for e-assessment;
- **The perspective of teaching and learning support services**, related to digital course and curriculum design, team support, ICT support, and mobility support;

- **The leadership perspective**, related to institutional strategies and frameworks for the digitisation of education, international education and virtual mobility (e.g., in European Universities Initiatives alliances or EUIs), quality assurance frameworks, institutional budgeting, the continuous professional development of staff, and continuous institutional evaluation;
- **The external stakeholder perspective**, related to the response to needs for flexible online education in enterprises, professions, and society, possibly the co-creation of content, flexible workplace learning, and the recognition of qualifications for digital learning;
- **The government perspective**, related to the legal framework for digital education, institutional funding, quality assurance and accreditation, the ICT infrastructure for universities, and international cooperation and mobility.

Stakeholders' perspectives can vary in mainstream education, continuing education and professional development, and open education through MOOCs. It is therefore important to create specific internal quality frameworks and support services for these three areas, although in practice they may interact with each other.

Multi-level approaches

Simultaneously, it's crucial to adopt a multilevel strategy as change processes impact stakeholders at their respective levels. For these processes to be effective, there needs to be an ongoing dialogue between these levels:

- **The micro-level** includes the course and curriculum, with students and academic staff playing key roles.
- **The meso-level** pertains to the institutional organisation, with key actors being institutional leaders, support staff, and representatives of external stakeholders.
- **The macro-level** encompasses national and regional decision-makers related to higher education organisations, including national support services like quality assurance agencies and ICT infrastructure providers, councils, and stakeholder groups.

Even though the processes at these levels are distinct, a holistic approach to quality and innovation necessitates the involvement of stakeholders at all levels, each with their unique perspectives and responsibilities.

Drivers and enablers of change

Institutions need a framework for systematic change processes based on internal and external quality assurance assessments. Laurillard has made a system analysis for innovation within higher education (Laurillard, 2015). The "drivers" in the system play a crucial role in shaping priorities for academic leaders and professionals. They are elements of the higher education system that determine how academic teachers and leaders are likely to prioritise activities. They will act to prioritise activities that respond to the drivers.

These drivers include: funding imperatives, summative assessment requirements, stakeholder demands, quality assurance, strategic plans, curriculum requirements, students' individual needs and skills, teachers' career opportunities. None of these drivers are completely under control of universities as they are also determined by governments, agencies or stakeholder groups.

Drivers are not sufficient for effective innovation in a system without the 'enablers'. While drivers set the context, enablers are essential mechanisms that empower leaders and professionals to respond effectively to it. Critical enablers for successful innovation in universities include: leadership support for innovation, teacher professional development, communities of practice, learning technology systems tools and services, shareable resources, and (institutional) evaluation and research evidence.

Quality assurance serves a dual role. As a driver, external and internal quality assurance pushes academic leaders and professionals to maintain high standards. As an enabler, data-driven quality assurance supports continuous institutional evaluation and enhances continuous innovation in higher education.

4. E-xcellence: Quality Benchmarking for Blended and Online Educatione

Quality

Quality standards and guidelines are based on agreed principles, reference frameworks and indicators for the quality of courses and curricula, institutional policies and conditions, and national policies for digital education and innovation. In Europe, the ESG standards and guidelines and the Considerations on E-learning are guiding standards for internal and external quality assurance. A revised version of the ESG and Considerations is planned by 2026, to be approved by the 2027 Ministerial Conference of the European Higher Education Area (EHEA, 2024).

E-xcellence is an institutional benchmarking instrument aligned with the current ESG and Considerations standards. By self-assessing against specific criteria, institutions can identify areas for improvement. Based on their performance, institutions set goals, and benchmarks. The Excellence Manual provides systematic pathways to achieve these benchmarks, aiding strategic decision-making.

A manual

Initially published in 2006, subsequent versions of the manual incorporate blended models, as well as emerging trends like open education and MOOCs (Ubachs et al., 2015). The upcoming third edition is anticipated in 2024.

The primary purpose of the manual is to serve as a comprehensive reference framework. It provides benchmarks, quality criteria, and guidance notes for assessing digital learning programmes and their support systems.

While assessment is its primary purpose, the manual has proven invaluable for course design, development, and implementation. Course developers and teachers see the manual as a useful development and/or improvement tool to integrate into institutional systems for quality assurance and enhancement.

To date, more than 50 universities across Europe have used the E-xcellence tool to benchmark their digital learning performance with peer review. The instrument is available with an open licence and translated in several languages worldwide.

A benchmarking instrument

E-xcellence, originally intended as a tool to set uniform standards, shifted its approach during the initiation phase. Given the diverse contexts of European universities and digital learning practices, experts opted for benchmarking instead of rigid standards.

The system of benchmarking has several advantages:

- *Respects institutional responsibility:* institutions retain autonomy for quality assurance, setting their own pace and ambition.
- ***Self-evaluation for improvement:*** universities compare their e-learning practices against European best practices.
- ***Peer review input:*** collaborative dialog with peer reviewers drives improvement.

In the many exercises with E-xcellence benchmarking at European universities, it appeared that E-xcellence's most valuable feature lies in its guided discussions. It ensures comprehensive coverage of essential aspects in delivering high-quality online education. Moreover, it prompts university staff to reflect on processes they might otherwise take for granted.

Addressing all aspects of delivering high-quality online education, E-xcellence clearly represents a multilevel and multi-stakeholder approach, targeting both staff and management levels under the manual's six chapters on strategic management, curriculum design, course design, course delivery, staff support, and student support:

- ***Strategic management:*** the institution should have defined policies and management processes that are used to establish strategic institutional objectives for the development of digital learning.
- ***Curriculum design:*** programme boards should integrate knowledge and skills development and address challenges of active and personalised learning to meet different learning needs and aspirations.
- ***Course design:*** course teams should outline the relationship between learning objectives/outcomes, teaching and learning activities, and assessment methods elements (constructive alignment). A course can contain a mix of e-learning and face-to-face learning.
- ***Course delivery:*** includes the virtual learning environment, personal learning environments, and/or other channels, such as social media, through which students receive their course materials or communicate with fellow students and staff.
- ***Staff support:*** various staff support services enable all members of the academic, administrative, and technical staff to contribute fully to the development and service of digital learning, including specific professional development activities.

- ***Student support:*** student support services are an essential component of digital learning provision. Students' retention, success, and satisfaction are their main objectives. Institutions should develop policies and strategies for the design and provision of student support services.

Internal quality assurance leading to the E-xcellence Associate in Quality Label

The E-xcellence instrument consists of three steps leading to the E-xcellence label, which recognises a continuous cycle of e-learning improvement by the university:

- ***Evaluation:*** the university begins by evaluating the performance of its existing digital programmes. This evaluation identifies areas for improvement. Initially, a *quick self-assessment (quick-scan)* is performed. Subsequently, the university can choose a more comprehensive review evaluation conducted by experts. This review can take place either online or through an on-site visit, resulting in locally focused recommendations for enhancement.
- ***Review:*** E-xcellence reviewers base their evaluation on the university's complete reference material and evaluate its self- evaluation against *35 quick-scan benchmarks*. Leveraging this self- evaluation, the university then develops a roadmap for digital learning improvements over the next *3 years*. Reviewers collaborate with university staff during this process.
- ***Integration into Quality Assurance:*** to ensure a continuous cycle of self-evaluation, the university integrates the E-xcellence benchmarks into its *internal quality assurance system*. This integration is a prerequisite for obtaining the E-*xcellence Associate in Quality Label* from the European Association of Distance Teaching Universities (EADTU).

The OpenupEd quality label for MOOCs

The OpenupEd quality label for MOOCs is an extension of the existing E-xcellence label to address the need for a quality assurance instrument specifically tailored for MOOCs within the European OpenupEd portal (OpenupEd, 2023). Its purpose is to assess and enhance the quality of MOOCs. The label employs benchmark statements derived from the E-xcellence quality assurance instrument, capturing best practices at both the institutional and individual course levels. By engaging institutions in self-assessment and review, it encourages quality enhancement and the development of actionable improvement plans.

5. The European Maturity Model for Blended Education (EMBED)

The concept of maturity refers to the degree of deliberate and evidence-based decision-making on digital learning courses and programmes, leading to the continuous optimisation of the design, development, and implementation or specific institutional conditions and strategies concerning digital practices (Van Valkenburg, Dijkstra, & De Los Arcos, 2020).

Maturity is reached when the university (or a faculty) reaches the level of a "learning organisation". Decisions are informed by evidence, leadership is shared, and processes are integrated and continually evaluated to better serve stakeholders. Technology is fully exploited to create better education.

The difference with quality is that maturity refers to a deliberate and sustained process of decision-making for the improvement of digital education. This includes the use of the results from quality assurance. Maturity can progress through various stages, from initiation to full optimisation in digital education implementation (Ubachs & Henderikx, 2023).

EMBED

The European Maturity Model for Blended Education (EMBED) is an instrument to assess the maturity of decision-making with the aim of empowering European higher education to achieve high-quality blended education programmes and courses (EADTU, 2020; Goeman & Dijkstra, 2019a).

The EMBED maturity dimensions are based on most recent literature research (Goeman, Poelmans, & Van Rompaey, 2018), on the evaluation of best blended course development practices and institutional strategies, and on a Delphi study of the results of these investigations (Goeman, Dijkstra, Poelmans, Vemuri, & Van Valkenburg, 2021). Criteria and instruments are developed to assess and map the degree of maturity of blended education for each of these maturity dimensions. For each dimension, a high, medium, or low maturity level can be represented in a spider diagram.

The EMBED model uses a multi-level and multi-stakeholder approach:

- At the course level, the maturity is assessed for course and curriculum design according to six dimensions: the selection and sequencing of learning activities, the selection of blended learning tools, course flexibility, course interaction, the student learning experience, and study load and inclusiveness.
- At the programme level, the maturity level is assessed according to six dimensions: programme coherence, alignment and coherence of blended learning tools, programme flexibility, the student learning experience, study load, and inclusiveness.
- At the institutional level, the maturity level is assessed according to eight dimensions: institutional strategy, institutional support, sharing and openness, institutional development, quality assurance, governance, finance, and facilities.

For each dimension, guidelines are developed to optimise processes leading to systemic decision-making (Goeman & Dijkstra, 2019). EMBED also includes recommendations for governmental policy makers.

6. Challenges for the future

Future challenges for quality assurance relate to rapid developments in educational technology, particularly in Artificial Intelligence (AI), the internationalisation of curricula and mobility in digital settings, the development of virtual campuses in European university alliances, and the provision of flexible and scalable microcredentials.

Through the COVID crisis, our understanding of digital education has deepened, leading to the consolidation of digital teaching and learning approaches. Recently, *emerging educational technologies*, like generative AI and the metaverse, are challenging universities. These innovations will drive substantial changes in teaching and learning approaches, including personalised learning, intelligent tutoring systems, and social interactions within virtual spaces. These shifts require effective management of change processes within higher education institutions, along with continuing professional development and robust support services for staff. They also impact quality assurance in education at all levels.

By the end of 2024, around 400 universities will participate in *60 European Universities Initiatives* (EUIs), a priority set by the European Commission. The Commission's ambition is that these alliances create an integrated European campus, offering joint courses, programmes, and mobility opportunities for students and staff. The goal is to achieve 50% physical, blended, or online short-term or long-term mobility. This can only be developed at scale by using digital teaching and learning models (Henderikx & Ubachs, 2022; Henderikx, Ubachs & Antonaci, 2022). While existing European quality assurance practices for joint programmes can partially apply, EUIs face a broader mission across multiple campuses. The EUniQ project specifically addressed multi-campus quality assurance, and the European Strategy for Universities is tackling this problem by creating a legal structure for alliances and by creating European degrees (EUniQ, 2020).

The European Council Recommendation on *micro-credentials* for lifelong learning and employability will significantly impact the structure of continuing education and course offerings in universities. To achieve flexibility and scalability, many micro-credentials will be organised in digital formats. Quality benchmarks in this context include flexibility adapted to the needs and life conditions of adult learners, the integration of academic and professional competence development, course design in collaboration with enterprises and sectors, recognition of awards and qualifications, and stackability of courses. Addressing these benchmarks may require a tailored quality assurance approach.

7. Conclusions

The COVID-19 pandemic has catalysed a new phase in digital education. Universities are now consolidating digital pedagogies for mainstream degree education while rethinking and expanding continuing education and professional development, and open education provisions.

The Common Standards and Guidelines for Quality Assurance in the European Higher Education Area are the framework for internal and external quality assurance in Europe, including digital education. Recognised instruments for quality assurance and mature decision making, such as E-xcellence and EMBED, focus on course, curriculum, and institutional levels, involving teaching staff, educational support services, and leaders.

Recent years have brought forth new challenges that impact teaching and learning approaches in higher education. These include artificial intelligence, European University Alliances with international campuses, joint curricula and virtual mobility, and new structures for continuing education incorporating flexible and scalable micro-credentials. These will require continuing professional development for all institutional stakeholders. Leaders and staff must embrace management of change to transform universities for the future. Updating quality standards and benchmarks, along with mature decision-making processes, will guide this transformative journey in higher education.

5. CLOSING REMARKS

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These concluding remarks are intended to highlight the issues specific to the accreditation of distance learning (DL) programmes, as described in the previous chapters. It is important to recognise, however, that some of these concerns are applicable to traditional face-to-face instruction, as well.

The legislation specific to accrediting DL programmes for higher education was written pre-pandemic and, as such, presents a perspective tied to issues and views of that time. For example, its emphasis on DL for adult training and students beyond the age of traditional university attendance hints at a less-integrated approach, whereas such coursework might now be considered simply one option for the full range of potential students. Post-pandemic, the value and power of distance learning is self-evident and genuine.

A key point in evaluating distance programmes is the need to base instruction on valid design models. Emergency remote instruction during the pandemic made clear the futility of attempting to replicate traditional face-to-face instruction within the virtual environment. While acknowledging that this may have been done out of desperation, it is important to emphasise the need to design coursework and programmes using valid models and proven strategies.

Other factors that should be addressed in distance learning programmes include the following:

- Infrastructures/systems must be accessible to all participants; comply with standard information security requirements; and facilitate administrative student support, such as online registration, advising, textbook purchases, and library access. Even the best programmes, instructors, and students cannot overcome systemic disarray.
- Programmes should reflect an appropriate use of technology to support education without *leading* it. Programmes, curricular units, and individual course modules must be designed around effective learning strategies, not specific technologies. By doing so, institutions and accrediting bodies can take advantage of digital affordances and recognise their value without needing to revamp evaluation criteria every time a new application, machine, or system appears.
- Distance learning has a poor track record when it comes to student retention. Strategies to mitigate drop-out (non-continuation) must be integrated throughout programmes, such as "early warning" systems that alert advisors and instructors when a student exhibits behaviours correlated with dropping out. Careful instructional design can also improve student retention when principles of motivation and self-regulation are incorporated into distance learning programmes.

- Consideration for how distance learning programmes are integrated within an institution must be addressed. Many universities, globally, have chosen to establish distance learning programmes as auxiliary services, thus distancing themselves from truly integrating those programmes into institutional structures, cultures, and quality concerns. Such organisational structures can be perceived as "less than," diminishing their credibility and, potentially, the value of the degree. Ensuring that distance learning is fully incorporated into the institution must be a priority.

It's clear that the development and accreditation of distance learning programmes must remain focused on key issues yet remain flexible enough to accommodate the pace of technological advances. We are seeing DL occurring as part of a spectrum of digital integration into education, rather than a separate enterprise. We need to understand, however, how DL initiatives will influence, unsettle, or even transform higher education, long term.

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PUBLICATION DETAILS

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Título:
DISTANCE LEARNING IN HIGHER EDUCATION:
CHALLENGES FOR THE FUTURE

Editor:
Agência de Avaliação e Acreditação do Ensino Superior
Praça de Alvalade, nº 6 – 5º Frente
1700-036 LISBOA
www.a3es.pt
a3es@a3es.pt

Collection:
A3ES READINGS Nº19
December 2025

Graphic Design:
Ângela Calheiros

ISBN: 978-989-53667-4-3