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DIGITALIZATION OF HIGHER EDUCATION: PROBLEMS AND PERSPECTIVES

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ABOUT ARTICLE

Key words: language acquisition, digital technologies, MOOC, learning management system, blended learning, assessment, ESL, Open educational resources, Flipped Classroom, e-portfolios.

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Abstract: The article is devoted to the exploration of the perspectives in new methods and tools aiming at improving teaching / learning process and increasing the quality of language acquisition on the whole. The aim of the present research is to analyze existing approaches to blended learning specifying challenges and concerns preventing from their successful application into educational process. The developed methodology, including such methods as observation, case-study, synthesis and analysis, reveals several gaps in blended learning, i.e., 1) access to technology, 2) teacher preparedness, 3) curriculum design, 4) student engagement, which usually negatively affect the learning process. Basing on the European experience, the authors developed solutions to leverage negative effects and make more comfortable language learning environment utilizing digital opportunities. In particular, the requirement for new and enhanced learning management system (LMS) technologies will continue to exist in the foreseeable future. While many LMS tools and services are available as open- source solutions, Blackboard and Canvas are two of the most popular fee-based options. Open educational resources (OER) are a movement that advocates for the democratization of educational materials by providing free access to them. Digital technologies also offer many opportunities to improve and extend assessment procedures in education, allowing educators to evaluate learners on the level of knowledge and skills they have acquired, as well as the state of their dispositions and attitudes, over the course of

a learning period. Existing assessment tools or formats that use technology, such as e-portfolios (documentation of individually created multi-modal artifacts), crowd- sourcing (such as electronic voting systems), online badges (an alternative accreditation system in online and virtual environments), and social media communication (such as blogs and wikis) are digital tools for effective assessment.

OLIY TA’LIMNI RAQAMLASHTIRISH: MUAMMOLAR VA ISTIQBOLLAR

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MAQOLA HAQIDA

Kalit so‘zlar: til o‘zlashtirish, raqamli texnologiyalar, MOOC, o‘quv jarayonini boshqarish tizimi (LMS), aralash ta’lim, baholash, ESL, ochiq ta’lim resurslari, Flipped Classroom, elektron portfellar.

Annotatsiya: Mazkur maqola ta’lim jarayonini takomillashtirish va tilni o‘zlashtirish sifatini oshirishga qaratilgan yangi metod va vositalar istiqbollarini o‘rganishga bag‘ishlangan. Tadqiqotning maqsadi — aralash (blended) ta’limga oid mavjud yondashuvlarni tahlil qilish, ularni ta’lim jarayonida samarali qo‘llashga to‘sqinlik qilayotgan muammolar va tashvishlarni aniqlashdan iborat. Tadqiqotda kuzatuv, keys-stadi, sintez va tahlil kabi metodlardan foydalangan holda bir qator kamchiliklar aniqlangan, jumladan: 1) texnologiyalarga kirish imkoniyati, 2) o‘qituvchilarning tayyorgarlik darajasi, 3) o‘quv dasturini loyihalash, 4) talabalar faolligi. Ushbu omillar o‘quv jarayoniga salbiy ta’sir ko‘rsatadi. Yevropa tajribasiga asoslanib, mualliflar raqamli imkoniyatlardan foydalanish orqali salbiy ta’sirlarni kamaytirish va qulayroq til o‘rganish muhitini yaratishga qaratilgan yechimlarni ishlab chiqdilar. Xususan, yangi va takomillashtirilgan o‘quv jarayonini boshqarish tizimlari (LMS) texnologiyalariga bo‘lgan ehtiyoj yaqin kelajakda ham saqlanib qoladi. Ko‘plab LMS vositalari ochiq manbali shaklda mavjud bo‘lsa-da, Blackboard va Canvas eng mashhur pullik variantlar hisoblanadi. Ochiq ta’lim resurslari (OER) harakati esa o‘quv materiallariga bepul kirish imkoniyatini yaratish orqali ta’limni demokratlashtirishni targ‘ib qiladi. Raqamli texnologiyalar, shuningdek, baholash jarayonini takomillashtirish va kengaytirish uchun keng imkoniyatlar yaratadi. Bu o‘qituvchilarga talabalarning o‘zlashtirgan bilim va

ko‘nikmalari, shuningdek, ularning munosabat va qadriyatlarini o‘rganish imkonini beradi. Texnologiyaga asoslangan baholash vositalariga elektron portfellar (talabalarning multimodal ishlarini hujjatlashtirish), ommaviy ishtirok (elektron ovoz berish tizimlari), onlayn nishonlar (virtual muhitda alternativ akkreditatsiya tizimi), hamda ijtimoiy tarmoqlardagi muloqot (bloglar va vikilar) kiradi. Ushbu raqamli vositalar ta’lim jarayonida samarali baholashni ta’minlaydi.

ЦИФРОВИЗАЦИЯ ВЫСШЕГО ОБРАЗОВАНИЯ: ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ

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О СТАТЬЕ

Ключевые слова: изучение языка, цифровые технологии, MOOC, система управления обучением, смешанное обучение, оценка, ESL, открытые образовательные ресурсы, перевернутый класс, электронное портфолио.

Аннотация: Статья посвящена исследованию перспектив использования новых методов и подходов, направленных на улучшение процесса преподавания/обучения и повышение качества усвоения языка в целом. Целью настоящего исследования является анализ существующих подходов к смешанному обучению с определением проблем, препятствующих их успешному применению в образовательном процессе. Разработанная методология, включающая такие методы, как наблюдение, кейс-стади, синтез и анализ, выявляет несколько пробелов в смешанном обучении, а именно: 1) доступ к технологиям, 2) готовность преподавателей, 3) разработка учебной программы, 4) вовлеченность студентов, которые обычно негативно влияют на процесс обучения. Основываясь на европейском опыте, авторы разработали решения для снижения негативных эффектов и создания более комфортной среды изучения языка с использованием цифровых возможностей. В частности, потребность в новых и усовершенствованных технологиях систем управления обучением (LMS) сохранится в обозримом будущем. Хотя многие инструменты и сервисы LMS доступны в виде решений с открытым исходным кодом, Blackboard и Canvas являются двумя из самых популярных платных вариантов. Открытые образовательные ресурсы (OER) — это движение, которое выступает за

демократизацию образовательных материалов путем предоставления к ним свободного доступа. Цифровые технологии также предлагают множество возможностей для улучшения и расширения процедур оценки в образовании, позволяя педагогам оценивать учащихся по уровню полученных ими знаний и навыков, а также по состоянию уже имеющихся навыков и установок в течение периода обучения. Существующие инструменты или форматы оценки, использующие технологии, такие как электронные портфолио (документирование индивидуально созданных многомодальных заданий), краудсорсинг (например, системы электронного голосования), онлайн-значки (альтернативная система аккредитации в онлайн- и виртуальных средах) и общение в социальных сетях (например, блоги и вики) могут рассматриваться как цифровые инструменты для эффективной оценки.

Introduction. Since the introduction of television in the 1950s, there has been a lively debate over the appropriate use and integration of educational technology into learning contexts, including classrooms and training settings. When televisions were first introduced into the classroom, they were heralded as a revolutionary piece of equipment. Video streaming, on the other hand, will most certainly have a greater influence on education than television in terms of innovative visual technology [Ligato, 2015]. A similar wave of acceptance and controversy has happened with new technical advancements throughout the years, but the usage of computers has sparked the most heated debate and acceptance in recent history. In order to demonstrate the benefits (or downsides) of technology over conventional learning environments, many studies have been conducted, particularly in the case of computer-assisted training in the 1980s and 1990s; the results have been mixed or unfavourable [Clark, 1983]. With the opportunity for computers to be connected through the Internet, the topic has become much more heated than before. To determine whether learning format had a stronger influence on student learning accomplishment, a large number of academics performed studies. Traditional teaching and learning settings that did not include technology were often pitted against schools that did use technology. More recently, R.Tamim and her colleagues, in their comprehensive meta-analysis, provide persuasive data that integrating computer technology in the classroom has benefits over conventional onsite (face2face) training that does not use technology [Tamim et al., 2011].

Educators should be aware that boosting education via digital technology is not a new occurrence in the field of education. Even if terminology and phrases become widely understood

and accepted, or if new ones replace them, this does not necessarily imply that the meaning of what is stated has changed. Technology advances often result in the introduction of new words and jargon. Before considering the impact of digitalization in education, it is necessary to consider the terms that have been used in the past in order to describe the integration of technology leading up to this current descriptor, which is e-learning, online learning, blended learning, mobile learning, and so forth. For the purposes of teaching and learning, all of them are considered to be alternate formats or contexts. As we began with ICT-enhanced instruction and computers, advances in ICT allow us to consider alternative spaces for education, and the labels or names used to describe these spaces or environments reflect defining characteristics that are frequently technological (use of ICT) and geographical in nature (distance from the location of instruction).

Methods. The current research is devoted to a complex and multifaceted topic that requires the use of a variety of research methods to gain a comprehensive understanding. Each method offers unique insights into different aspects of digital transformation, from technological challenges to educational outcomes. The following methods were employed in the present research.

Literature Review, which involves the systematic examination of existing research, articles, reports, and case studies on the topic of digitalization in higher education [Snyder, 2019; 334]. This helped identify gaps in current knowledge, examine trends, and evaluate perspectives on problems and opportunities in the extension of digitalization of education in Uzbekistan universities. On the other hand, the observation and review of existing platforms (including digital systems like LMS, OER, and MOOC) led to suggestions for their application into the educational process as well.

Content AnalysisContent Analysis followed Literature Review followed the literature review, which involved analyzing modern trends and practical materials developed for online teaching and learning [Bengtsson, 2016]. It was useful for examining how digitalization is represented in official policies, academic discourse, and educational platforms. It helped reveal underlying assumptions, priorities, and contradictions in how digital transformation is discussed and implemented in modern educational paradigms.

Case Study was applied at the next stage of our research and involved a detailed analysis of programs that have undergone digital transformation. Utilizing this method led to understanding how the digitalization process was implemented, the challenges faced, and the outcomes achieved. Moreover, this method allowed for a deep understanding of the complexities involved in digitalization within specific contexts. By focusing on real-world examples, we could identify best practices and common obstacles, providing practical insights for other institutions considering digitalization in higher education.

Results

Online learning

Online learning, which is considered a subset of remote learning, is often used as a broad word to refer to educational settings that make use of information and communications technology (ICT), computers, and the Internet. As defined by M. Ally, “Online learning is comprised of a number of terms that are commonly used to describe it. These terms include e-learning, Internet learning, distributed learning, networked learning, tele-learning, virtual learning, computer-assisted learning, web-based learning, and distance learning” [Ally, 2008; 16].

All of these words suggest that the student is separated from the tutor or teacher, and that the learner is working alone. The student accesses the learning materials via the use of some technology (often a computer) the student interacts with the tutor or instructor and with other learners via the use of technology students with other students, and some type of assistance is offered to them [Kerr et al., 2006]. The most significant contrasts between conventional face-to-face educational contexts and online learning environments are as follows: online learning, often known as e-learning, is characterized by the absence of constraints such as time and space or geographical distance. It is dependent on how successfully it assists instructors and students in achieving the targeted educational objectives [Ross et al., 2008]. Learning technologies may assist in avoiding the temptation of employing technology in educational situations only for the sake of technology rather than for the benefit of the student or the instructor's purposes. It is important to stress that boosting education via the use of digital technology is not a brand-new occurrence in education. As concepts and phrases become more widely used and understood,

When words are accepted or are replaced by new ones, it does not necessarily follow that what is expressed (in the description) is correct. In terms of substance, this is also a first. With each new technological innovation comes the introduction of new terminology and phrases. The use of jargon has increased [Kozma, 1991]. It is necessary to examine the influence of digitalization on education to comprehend its significance. It is also crucial to evaluate other phrases used to represent technological integration that are leading up to and including the present description, which includes e-learning, online learning, blended learning, and distance learning etc. All of them are considered alternate formats or venues for educational purposes. As we began with computer-assisted training and improved instruction, technological advancements have continued. The use of information and communications technology (ICT) allows for the consideration of alternate educational venues, as well as alternative labels or titles. The descriptive terms used to characterize these areas or situations reflect distinguishing qualities often seen as technical (the use of information and communications technology) and geographical (distance from the instruction location).

Blended learning

Currently, blended learning (an educational approach that combines online digital media with traditional classroom teaching methods) has gained a great favor. This approach creates a new

avenue to improve the pedagogical skills and further professional development of ESL (English as Second Language) teachers Blended learning can help address several instructional challenges while creating a more engaging and effective teaching environment using technology.

Blended learning was introduced as an antidote to the blue-chip choice between traditional classroom teaching on the one hand and 100% online, self-paced learning, a pattern that evokes George Lucas's futuristic sci-fi vision of education. It aims to blend the best of both worlds; as flexible and convenient as online but a personal, live service like that traditionally delivered face-to-face.

It allows to provide ESL students with personalized, differentiated instruction, which is likely one of the reasons teachers employ blended learning in a classroom. This is where online platforms provide a range of resources, from video to interactive exercises and reading materials for students to access and go through on their own timelines. This personalized methodology minimizes differentiation because differential proficiency levels are handled more easily in connection with the ESL classroom setting, making sure that every student receives correlative help so as to succeed.

In addition, blended learning introduces digital literacy skills that are becoming more significant in a technology-oriented era. ESL teachers can help students by incorporating digital tools in their instruction so that the student becomes more comfortable and proficient with technology, which is a skill required for both academic life and many jobs currently available.

A winning blended learning implementation needs to be nurtured and constructed.

1.Defining the learning objectives of the course. This should then drive the selection of online and face-to-face activities so that every component contributes to those outcomes. Teachers need to know how these two components will fit together and complement one another when creating a blended curriculum. It requires capitalizing on the benefits, and reducing the drawbacks of each form. For instance, some models could be the flipped classroom, where students do not have to understand online exercises and, therefore, engage in more interactive activities because they are provided with theoretical abuses outside face-to-face moments. Combining face-to-face sessions with online teaching is also known as a hybrid learning model.

Figure 1.1 Comparing Blended Learning Models

Model	**Description**	**Benefits**
Flipped Classroom	Online pre-class activities, in-class hands-on learning	Enhances interaction, promotes active learning
Hybrid Learning	Alternates between online and face-to-face sessions	Flexibility, regular in-person interactions

Model	Description	Benefits
Supplemental Online	Online activities supplement face-to-face instruction	Reinforces learning, flexible access

2.Ongoing professional development for implementation of blended learning is also extremely important, particularly around ESL teachers. In schools and, more generally, in education, there should be continuing professional development opportunities for all school staff like workshops, mentoring experiences, as well as group work with other teachers. Creating communities of practice will provide a more nurturing atmosphere in which like-minded teachers can exchange experiences and resources, as well as improve upon their competencies.

It must receive basic training on blended learning, including theoretical underpinnings, advantages and practical exploration. This would involve providing practical training to teachers in the use of different technological toolkit and platforms along with how to design a blended curriculum. For example: Workshops, Online courses and Mentoring.

Advanced professional development is equally important. Examples of these could be workshops around a given theme, peer-collaboration opportunities, communities or practice or conferences. Technological support, like help desks and resource libraries, can also assist teachers in adapting to digital tools.

Blended learning has the potential to revamp ESL teachers' pedagogy as well as their professional development. This provides teachers with the ability to take on innovative, more student-centered approaches using technology and online tools that can benefit both students to learn better and experience a higher degree of job satisfaction.

The flipped classroom model proves to be an effective approach. Students complete online activities like watching videos or reading articles there. It enables to use the face-to-face time for interactions and hands-on activities, like group-based discussions as well as project work.

Figure 1.2 Professional Development Activities for ESL Teachers

Activity	Description	Benefits
Workshops	Practical sessions on blended learning strategies	Hands-on experience, immediate application
Online Courses	Flexible, self-paced learning on various topics	Convenience, depth of knowledge
Mentoring and Coaching	Pairing with experienced mentors	Personalized support, practical advice

Activity	Description	Benefits
Professional Learning Communities (PLCs)	Structured groups focusing on specific topics	Collaboration, shared best practices

3.Online communication and collaboration tools in a blended learning environment also provide a space for students to meet, discuss, share ideas, and work together. ESL teachers could craft ready-made projects where students must collaborate virtually and offline to achieve certain tasks or develop solutions. Make Language Real is a series of projects that foster genuine communication and collaboration.

As an accompaniment, blended learning encourages using formative assessments to track progress and give students feedback when needed. Quizzes, polls or discussion boards can help educators monitor their students' comprehension levels and provide them with additional support. Finally, teachers may use this ongoing assessment placed to improve instruction and apply interventions they have available for struggling learners.

For ESL, teachers also get much professional development when developing blended learning programs. Blended learning fosters the life-long pattern of continuous education and reflection, which allows teachers to grow in practice by gaining new skills within teaching and staying up-to-date with all advances that occur so frequently. Blended learning environments encourage educators to network and share knowledge about their practices, which can foster a sense of professional community and support.

Figure 1.3 Benefits of Blended Learning for ESL Teachers

Benefit	Description
Enhanced Digital Literacy	Improved skills in using technology and digital tools
Innovative Teaching Methods	Adoption of student-centered and interactive approaches
Continuous Professional Development	Ongoing learning and skill enhancement
Collaborative Networks	Building professional communities and support systems

Blended Learning in Case Studies

Case studies are examples of blended learning at work and provide the most instructive information about what you can achieve with a BL program. Blended Learning can be designed to meet diverse contexts from higher education and unique case studies

A flipped classroom in an adult ESL program Case Study 1

We turned to the flipped classroom model to foster better language proficiency and engagement in an adult ESL program. These included students completing some online

demonstration/tutorial activities and working through a series of interactive exercises before coming into face-to-face classes. This practice came with the benefit of being able to do fun and engaging activities in class - like group discussions, real-world problem-solving tasks, and role-play simulations, to name a few.

In communication, students made significant strides in language learning. More engaged and motivated, that is, more active language use in class, resulted from frequent interaction on a practical level. Teachers also expressed more satisfaction in relation to their practices and observed more dynamic, efficient teacher-student interaction.

At a high school ESL program, they switched to hybrid learning model. The decision was to have students in classes three days per week and online activities two other days. These online activities featured multimedia resources, interactive exercises, and formative assessments to consolidate the content taught in face-to-face. During the face-to-face sessions, we did things that were near impossible to do online - group discussions, presentations and work on projects.

With the hybrid learning model, students can access material on their own time with support from teachers. It worked, and student doing better - more proficient language levels, more engagement. Teachers also expressed that the process of teaching as a whole is much more rewarding and easier with this tool.

Discussion

Challenges and Concerns

Blended learning has many advantages, but there are also challenges and considerations to consider when implementing it. Making certain everyone has a computer or the tools needed to access class remains vital. Schools have to develop solutions for digital equity by giving students resources and help if they struggle getting the technology.

Some of the teachers are not well prepared to implement blended learning. But all urgent plans have to include the hard part: initial and ongoing meaningful professional learning on developing digital literacy skills for staff, complete with instructional strategies. Back up schools with proper professional development programs and ongoing teacher support.

It is also hard to make a blended curriculum that aligns effectively. Instructors need to think carefully about how online courses should be mixed with face-to-face learning so that the blend makes sense and is driven by learning practices. Creating student interest in a blended learning experience can be rather difficult and must rely on creativity as well as personal knowledge of the person you are teaching.

Table 5 Challenges and Solutions in Blended Learning

Challenge	Solution
Access to Technology	Provide resources and support to students
Teacher Preparedness	Comprehensive training and ongoing professional development
Curriculum Design	Careful planning and integration of online and face-to-face components
Student Engagement	Interactive and engaging activities tailored to students' needs

Blended learning holds great promise for supporting ESL teachers and revolutionizing their instruction. It offers (and combines) online & LIVE instructions, so it is flexible convenient and can also make the instruction personalized Fosters active learning, improves student engagement and helps develop digital literacy

Blended learning has the potential of transforming ESL teaching for learners while assisters them get best out. It needs careful preparation and a nuanced understanding of the concept with a layering approach to integrate technology, design curricula using adaptive software, and teacher training. Professional development and support should be available to ensure the success of blended learning. Blended learning provides a hopeful approach to improve ESL instruction and support the professional growth of these teachers, though there are challenges that need addressing as well.

Challenges in digitalization of education

J. Schmidt and M. Tang claim that there is a significant problem with dropout rates in online or e-learning settings that are distance-based, and this is a problem that has been for some time [Schmidt & Tang, 2020]. Although this cannot be attributed to a single factor, J.Schmidt summarizes the research and provides an overview of potential contributing factors such as a lack of face2face contact with the instructor and fellow students, a lack of meta-cognitive skills, a lack of self-discipline, and a lack of motivation, as well as being unprepared, untrained, and therefore overwhelmed with the amount of information and requirements of online learning environments [Schmidt, 2007]. The “lack of high-quality online learning material, as well as the provision of training and support to instructors and trainers in conjunction with organizational changes in educational institutions” [Debande, 2004; 200] are other possible explanations.

Regarding face-to-face and online learning settings, J.Schmidt highlights common issues that affect both face-to-face and online learning environments differently in terms of interaction, control, flexibility, and control [Schmidt, 2007]. When it comes to learning settings, interaction takes place at many different levels, including interactions between instructors and students as well as interactions among students themselves. A learning environment must have the ability to provide chances for engagement while also having the capability to do so [Peters, 2000]. Functionality is less crucial in face-to-face situations than it is in technologically enhanced ones. However, with the

evolution of video and streaming technologies, live contact and communication are now available even in online situations, when before, this was only possible in traditional settings [Ofcom, 2018]. From an administrative standpoint, flexibility relates to how education is delivered (including scheduling and pacing of the learning tasks within a classroom or institution). The term "flexibility" refers to the ability to be flexible with both time and learning support: time spent in the classroom teaching, generating learning tools, and preparing curriculum.

When it comes to how the mix of learning activities is achieved, students are seldom given the freedom and control they deserve. Although this is a significant task, the authors present several different degrees of difficulty, including time and location (which refers to the benefits of doing simultaneous and sequential activities through online technology), and the levels of route and pace (relating to the order or sequence of content exploration and the speed at which this exploration occurs).

Secondly, it is necessary to consider promoting social interaction: Social interaction is generally facilitated through initial face-to-face meetings, and the challenge is how to extend and maintain interaction over an enlarged psychological and communication space (referred to as transactional distance, where social interaction becomes more difficult as the transactional distance increases), which includes both group and two-way interactions.

Thirdly, personalization and monitoring of students' learning progress are commonly organized through online instructional activities, but it is more important to encourage the use and development of self-regulation skills (including organization, discipline, time management, technology use, and self-efficacy to control students' own learning processes) in order for students to be more successful in their learning.

Activities and implementation. When it comes to instructional activities that foster an effective learning climate, little attention is paid. However, this is critical because online environments lack the spontaneous authenticity of face-to-face environments, leading to learner isolation, decreased motivation, and even drop-out [Berge, 2002]. To encourage favorable attitudes toward the course and teacher, it is necessary to take steps to ensure that learners feel protected, welcomed, and appreciated throughout their time in the course.

As previously said, the digitalization of education and the following digital transformation of education presents a number of difficulties that must be addressed at the same time on a number of different levels within education. However, the growth of digital technology has created a new basic issue that has repercussions across the whole system. If the use of digital technologies in teaching and learning is to be sustained, it is necessary to have an innate understanding of and fluency with them. In a world where digital technology is integrated into all parts of the educational system, and where these technologies continue to be dynamic and constantly evolving, it is necessary to

incorporate digital literacy in the educational system [Stark & Mandl, 2003]. When it comes to digital literacy, the decision on how it will be achieved takes time and effort. Will it be taught as an extra-curricular, add-on competence (which would require parents and students to choose whether to participate or not), integrated into the curriculum offerings, or automatically acquired through learning by doing and regular use?

These essential choices may have a significant impact on the execution of digitization plans, as shown by worldwide instances. According to P. Seow et al, examples from several nations that are presently attempting different approaches to digital liability are provided [Seow et al., 2019].

Literacy in education is being improved through the integration of computational thinking skills: England is credited with being the first country to integrate computational thinking into the K-12 curriculum; Finland has integrated learning objectives relating to computational thinking, programming, and problem-solving skills in real-world contexts into a new national curriculum at the primary and lower secondary levels; Japan is planning to make computer programming compulsory at the primary level by 2020; and the United States is promoting computational thinking in education through the integration of computational thinking skills [Hattie, 2009; Garrison & Vaughan, 2008; Teferra, 2014; Stoller, 2013; Selwyn, 2014].

In most European countries, digital literacy (including media literacy and digital competence) is taught alongside regular educational offerings, sometimes as part of the curriculum, sometimes as part of extra-curricular activities and other forms of additional training and course offerings, and sometimes as part of the curriculum [Lucia & Lepsinger, 1999]. The rate of technological development and the resulting increased industry involvement (including the push and pull factors of the industry as efforts to realize a match between new job profiles and appropriate skill levels of fresh graduates from programs and training increase), as well as the adoption of technologies by society in general, have an impact on how education evolves and develops. Although having technology and access to it does not ensure fluency or aptitude for successful application, educational institutions must make judgments about how to actualize, execute, and support the acquisition and development of digital literacy in order for it to be effectively implemented [Reeves & Reeves, 2015].

Teaching and learning settings that have been improved by digital technology are referred to as digital learning environments (DLE). The requirement for new and enhanced learning management system (LMS) technologies will continue to exist in the foreseeable future. While many LMS tools and services are available as open- source solutions, Blackboard and Canvas are two of the most popular fee-based options. Open educational resources (OER) are a movement that advocates for the democratization of educational materials by providing free access to them. The

growing popularity of MOOCs – massive open online courses – as a learning format is an example of open educational resources (OER).

Pedagogy is often regarded as the sole feasible method for ensuring the success of MOOC operations. When we say flipped learning, we are referring to the inversion of traditional learning settings, where homework is accomplished at school and classwork is completed at home. The flipped classroom method moves the burden from the post-class to the pre-class period, necessitating the development of new strategies for assuring student involvement and participation. Equity and access are two important considerations that must be taken into account at the administrative level. Other studies point to the necessity for teacher and instructor development, stating that fluency, literacy, and skill with the selected technology are all required for effective instruction [Ottestad & Gudmundsdottir, 2018].

Assessment. Assessment plays a critical role in education, serving multiple purposes that contribute to the overall learning process. It helps both educators and students to understand progress, strengths, and areas needing improvement [Arustamyan, 2018]. The advantages of digital technology for effective assessment of learning and success are many, but they are not always fully realized. A current trend in educational assessment is the "constructive alignment" method, which uses constructivist learning theory to support learner responsibility and engagement by aligning teaching and assessment activities for an optimal instructional design that fulfills three principles: (1) clear statement of curriculum or unit objectives in terms of content-specific levels of understanding that imply appropriate performances; (2) teaching methods require structural alignment; and (3) assessment methods require structural alignment. According to J.Biggs, the learning goals and expectations for how to achieve them must be clearly conveyed (for example, via the use of criteria reference) [Biggs, 1996].

Digital technology offers many exciting opportunities to improve and extend assessment procedures in education, allowing educators to evaluate learners on the level of knowledge and skills they have acquired, as well as the state of their dispositions and attitudes, over the course of a learning period. According to a study conducted by S.Timmis, P.Broadfoot, R.Sutherland, and A.Oldfield, technology enhanced assessment is defined as any use of digital technologies for the aim of improving formal or informal educational assessment for both formative and summative reasons [Timmis et al., 2016]. Current developments in assessment mostly rely on digital technology for data management and school improvement programs for assessing and benchmarking school performance, with the exception of certain traditional methods. In their study, they have discovered that very little innovation takes place at the individual (micro) learner level in order to improve learning success and procedures. Existing assessment tools or formats that use technology, such as e- portfolios (documentation of individually created multi-modal artifacts), crowd- sourcing (such

as electronic voting systems), online badges (an alternative accreditation system in online and virtual environments), and social media communication (such as blogs and wikis) are forms of assessment with technology, but they are not progressing in a way that puts control of assessment in the hands of the learner.

There are advantages and disadvantages to using data-driven assessment in education. As an assessment tool, learning analytics, which is the collecting and processing of huge educational data sets, may give an objective and deeper understanding of student development, but it can also be easily distorted and misled. Additionally, there are ethical challenges related with learning analytics and big-data, including permission, data protection, ownership and management of information, all of which are linked with the ethical duties educators have toward children and young people.

Another area in which analytics may be used is in the realm of corporate decision-making. Educational institutions should adopt a more business-like approach to the applications and uses of big data, according to L. Seres, V. Pavlicevic, and P. Tumbas, particularly to discover hidden patterns underlying performance in different areas, track admissions, optimize enrolment, manage grants, enhance academic advising, and so on [Seres et al., 2018]. Their study recognizes the benefits of leveraging Big Data in higher education institutions as a method of gaining competitive advantage, and they demonstrate that this is becoming more achievable via the use of open source platforms and technologies. Higher education institutions can assure a long-term future via the analysis of data collected from students and faculty [Stensaker et al., 2008].

Yet, there is an ongoing development of this and what the future appears to be outstanding. New breakthroughs in Augmented Reality/Virtual Reality technology are taking place in technical domains such as engineering and medical education. Transporting physical laboratory settings or artifacts into a virtual space where learners are no longer separated by barriers of time and space makes learning more interactive, flexible, and cognitively rich. Considering that experts from around the world are encouraged to participate or contribute to share expertise and special applications that are state of the art, this makes learning more interactive, flexible, and cognitively rich overall. A virtual learning environment is worth more than a thousand words when compared to the descriptions found in textbooks [Schmidt & Tang, 2020].

The integration of electronic platforms in English language teaching (ELT) has gained significant attention in recent years. This literature review aims to provide an overview of the existing research and scholarly works related to the use of electronic platforms such as ZOOM, Learning Management Systems (LMS), Big Blue Button, Google Classroom and Lumi in ELT. It explores the advantages, challenges, and best practices associated with these platforms, shedding light on their impact on language education.

Conclusion. This last part of this analysis on the history and nature of distance education in general, digitalization specifically, with a little more emphasis, will lead everyone to conclude how much both have been relentlessly transforming to fit exactly what society needs together with its subjects' needs. Advances in technology continue to pioneer the evolution of distance education from the early days with correspondence courses, right through to more modern online and blended learning models; which have aimed at reducing access barriers, improving pedagogical practices as well as integrating rapidly developing technologies.

Initially, distance education was simply an implausible idea to widen the access of basic and higher level educational opportunities from urban-based university classrooms. Everything started with establishing correspondence courses delivered by post to those who had been too distant or socially outcasted (for example, Isaac Pitman's proposals in 1840). One of the most revolutionary aspects of this form of education was to democratize and decentralize learning - a fact that is just as true today, with distance education at its very core.

In the 20th century, as radio and television came into wide use, a new format was developed based on those media. By the early 1900s, broadcasts were being used for educational programs to reach a broader audience and this was considered a step in changing distance education delivery. But as explained in the episode, these created richer digital content delivery controlled with audio and visual which increases student engagement over written word. At the same time, they brought in new challenges of maintaining educational quality and interactivity issues that educators are still facing using newer technologies.

The internet and digital technologies turned distance education into more than just a one-way delivery of content, creating instead an interactive learning experience. This brought about the rise of online learning platforms with their own features for communication, multimedia content delivery and interactive learning. This redefinition of the social and pedagogical roles of educators (more active) and learners (shift from being passive receivers to more empowered agents in their learning), replacing rote education with how to learn, building digital citizenship capacity.

The advent of the MOOC (massive open online course) in 2008 has brought scalability and access back to center stage while enrolling millions more students around the world. We have already seen how education can be disseminated at scale to a worldwide audience, (University of Phoenix) but that should be the beginning. However, this scale comes with a new set of obstacles - namely, maintaining educational quality at volume and personalizing learning on the grandest stage of them all while facilitating parallel access to necessary technological resources.

The digital education landscape is a field where today various challenges are confronted with critical importance to resolve. This starts with the requirement to preserve and strengthen the quality of academic offerings. With universities continuing to move their content online, educators are

turning towards blended learning models and the like as these frameworks can be implemented into any subject matter or region of the world. This entails designing holistic accreditation mechanisms that bring digital education within its purview.

Second: the digital divide looms large. As technology has advanced, not everyone can log in to the web with confidence (and a computer). The gap not only determines their capacity to enroll in educational programs but will compromise effectively educating low-tech access students who may be left behind. To overcome this, the governments along with institutions and technology providers need to work together in harmony be it any level of infrastructure or economic situation; so that digital education is easily accessible by all.

Another challenge is around student engagement and retention in online programs. Students can also feel less connected and even lazy by only having bare, online minimum interactions compared to the open face-to-face approach to communication. Supporting student engagement and success in online learning environments requires a nuanced collection of strategies, with developing compelling content, creating a community-based atmosphere through interaction/discussion capabilities (and preferably video), and ensuring students receive responses from instructors when they post questions or request feedback all being critical approaches.

Looking to the future, upcoming technologies - such as artificial intelligence; virtual and augmented reality; advanced data analytics- have been heralded for unlocking even larger possibilities of distance education. AI has helped in personalized learning and adaptive paths tailored to every student individually. VR and AR are effective tools that offer interactive hands-on learning; What virtual reality & augmented provide to you is an engaging environment where simulations can be made of things like surgery or how machinery operates without having the risk being associated with a negative occurrence (such as death / injuries)

In addition, data analytics can be leveraged to analyze learning behaviors and outcomes that in turn lead to informed decisions on curriculum modifications, teaching pedagogies or additional student support services. This approach uses data to help educators recognize students that are most at-risk and intervene earlier with the strategies offered to improve their situations.

The evolution of distance education from correspondence courses to online and blended learning environments is a testament to the dynamism and resilience of an industry that inherently thrives on leveraging advancements in technology as well as capturing changing societal trends. Yet the mission at its core, to bring inclusive education experience for anyone and every time still remains.

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