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***Teacher's perception about the use of
Digitalization in higher education.***

Case study: teachers from university of « Mohamed Boudiaf » M'sila.

Dissertation Submitted to the Department of English in partial fulfillment of
the Requirements for the Degree of Master.

Submitted by:

Salmi Noor el houa.

supervised by:

Dr. Berrabah Imane.

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Dedication

I dedicate this work first and foremost to my beloved pure soul (Maymi), although she is no longer of this world, her memories continue into my life. May his mercy overshadow her.

To the Two truly exceptional people for whom I completed this study: To my role model in life “My Mother”, and to the kindest heart “My Father”, who always encouraged me and wanted to see me on this day may God prolong their lives. To the dearest person who is always by our side “My Second Father” May God protect him.

To the one who brought out the best in me and always encouraged me in every decision, my dear “Husband” may God bless us.

To my angels my sisters

To a piece of my heart my little brother

To the persons who believe in my efforts my best friends
“Ahlam and Rayane”

To all my beloved Aunts and my uncles and their wives.

To my cousins who support me always each one by her name.

And the rest I love you all. I am truly thankful for having you all in my life.

Without you this work will never be done.

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Abstract:

The use of digitalization in education and higher education can play a significant role in the development of the educational system in teacher's objectives. Accordingly, the aim of the current study is to investigate teacher's awareness about their role when digitalizing education in M'sila University, Algeria. Moreover, the dissertation is devoted to investigate if they have perception to move on with digital education or not. The data is collected from 30 selected males and female's teachers in M'sila University through questionnaires. Data analysis is done by using SPSS version 26. The dissertation on hands is divided into two chapters. Briefly, the main findings of the research show that teachers have positive attitudes towards digital education. Finally, the conclusion can also be drawn that, M'sila university teachers are open and willing to rely on digital education.

Key words: Digital Education, Digitalization, Higher Education, Teacher, education.

List of Abbreviations:

MOOCS: Massive Open Online Course.

BL: Blended Learning.

M-learning: Mobile Learning.

E-learning: Electronic Learning.

IT: Information Technology.

MOODLE: Modular Object-oriented Dynamic Learning Environment.

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**GENERAL
INTRODUCTION**

1. Background:

Technology is one of the main factors that affect all aspects of our lives in the modern era, and among these aspects comes education as one of the most prominent areas affected by the advancement of technology. The use of technology in education has become indispensable to achieve improvement in the quality and efficiency of the educational process. Rui et al (2020) mentioned that the field of education is one of the most relevant phenomenon today. Education is the significant factor of the most productive sectors of economy; an educated nation is the guarantor of a highly developed state.

According to studies in the 2017 entitled “Reimagining the Role of Technology in Education”, Technology has the ability to significant change how people learn. It may strengthen and enhance the relationships between teachers and students, reimagine how we work together and learn, close long-standing equity and accessibility gaps, and customize learning options to suit the needs of all students.

In recent years, the world has witnessed a radical shift in the field of technology with the emergence of the novel coronavirus (COVID-19) pandemic when all schools and colleges were closed to limit the spread of the virus. This lockdown has greatly affected the lives of the students, as they are unable to attend the traditional classes in their institution. As a result, it becomes difficult to maintain face-to-face education. Accordingly, the need for a system where there is interaction between students and teachers without actually being together was necessary. In this pandemic crisis, many organizations and institutions have accelerated this transformation, enhanced the use of technology, and moved towards digitalization. (Debargha et al ,2021).

Despite having existed in a few other forms for a little while earlier, digital education is mostly a product of the last few years. The integration of digital technologies into educational practices has opened up exciting new opportunities and transformed traditional learning methodologies. Digitalization in education refers to the implementation of digital tools, resources, and platforms to enhance teaching, learning, and administrative processes within educational institutions. After entering the new normal era, several regions continue to carry out online learning

This fact demonstrates the need for digital learning now and in the future, even as we move into the post-pandemic age. Additionally, to embrace the Education, digital learning must continue to be developed and utilized, (Tika et al 2023). In other words, digitalization in education has revolutionized the way we learn and teach. It has transformed traditional educational and bring new tools and methods of learning, some teachers think that it will

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enhance the learning and facilitate it and the teacher in this situation his work will be more easy while others think the opposite.

However, it is important to address the challenges and concerns that come with digitalization in education because it requires modern technology and methods of information communication.

2. Statement of the Problem:

Many years ago technology was started spreading in education; universities started in using electronic tools computers, data show, websites...etc. when Covid-19 spread and all the normal conditions have changed, the study become impossible because of Quarantine and suspended movement, universities was obliged to continue with education and that lead to the spread of digital education.

Nowadays after Covid-19 disappearance higher schools are still using this digital tool but is that forever or just a temporary condition. So, this research paper will analyze the benefit and impacts of digitalization in higher education and the role of the teacher in using it and if M'sila university teachers are ready to continue teaching with digitalization.

3. Aims of the Study:

The present study aims at achieving the following goal:

Investigating the teacher's perception about digitalization in higher education.

4. Research Questions:

In accordance with the stated problem and research objective, this study stands to answer the following question:

What are the teacher's perception about using digitalization in higher education?

5. Research Hypotheses:

It is hypothesized that:

H1: Teachers see digitalization in education as a further development of teaching and learning.

6. Significance of the Study:

Digitalization has revolutionized education, including higher education, by providing new avenues for learning and engagement. However, the teacher remains an indispensable figure in leveraging digital technologies effectively. The significance of this study emanates from the fact that few researches that have examined digitalization in education in Algeria.

Additionally, the present study's findings would contribute to unveil the role of the teacher in digitalization of education and their intention to transform traditional education with digital education.

Finally, the present study will be a great contribution to teacher's awareness of the importance of digitalization and its effect in University performance.

7. Research Methodology:

7.1. Method:

In this study, the descriptive method was used which would be more adequate. It has been chosen because the work is mainly based on definitions, descriptions, and analysis of the findings.

7.2. Research tools:

In order to achieve the objectives of this study, questionnaires are used as data collection tools with teachers of different faculties of Mohamad Boudiaf M'sila University, Algeria.

7.3. Population and sampling:

The sample of this study are 30 teachers from different faculties of university of "Mohamed Boudiaf M'sila" university to confirm the majority views and ideas of teachers.

The sample of this research were: three teachers from each faculty, both genders in different ages.

Faculty of Sciences, Faculty of Law and Political Science, Faculty of Mathematics and Computer Science, Faculty of technology, Faculty of Humanities and Social Sciences, Faculty of Letters and Language, Institute of GTU, Faculty of Economics Sciences, Institute of Sports, English department. More details about sampling and population will be submitted in chapter two (02).

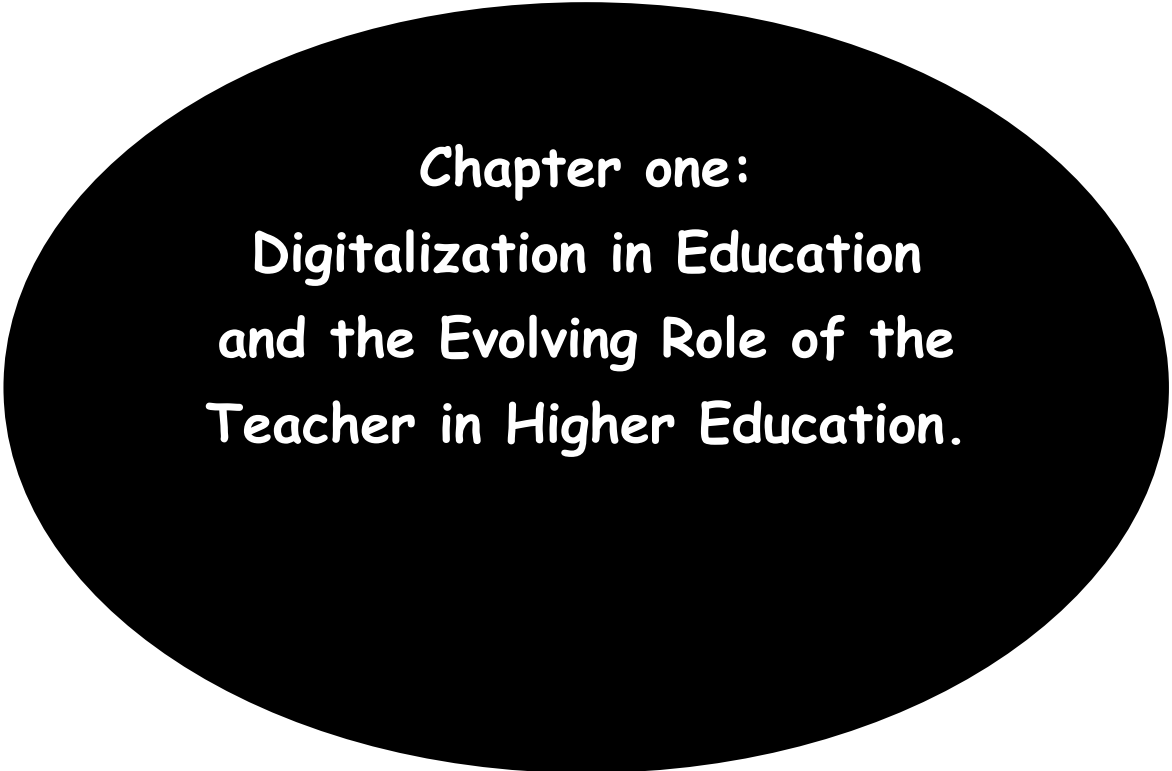
8. Study structure:

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This dissertation is composed of general introduction, two chapters divided into sections, and a general conclusion.

The first chapter stands as reference of the second chapter, it comprises two sections each one provides a clear image of digitalization in education, why to digitalize education, types of digital learning, impacts, advantages and disadvantages. and the evolving role of the teacher in use digitalization in higher education. The second section attempts to provides what is digitalization in higher school, it's benefits, what are digital platforms and digital tools, the role of the teacher in the use of digitalization in higher school and the skills he need, and the obstacles of applying digitalization in higher education. Additionally, the selected previous studies related to the topic under investigation.

The second chapter is devoted to the fieldwork of the present study in which collected data is analyzed interpreted and discussed. Moreover, the chapter provides a detailed explanation of the method of the study. It introduces the population and the way the sample was selected in the current study. Next, data collection too as well as the wat data is analyzed are explained in this chapter. The second section provides findings, discussion, limitations and recommendations for further studies.



**Chapter one:
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Section one: Digitalization in Education.

Introduction:

In order to initiate this research, this chapter is devoted to thoroughly reporting the theoretical part of the study under investigation Chapter one is an identification of the key terms and concepts that would be recurrent throughout the research. It is divided into two sections. The first section attempts to define digitalization in education and its types such as blended learning and e-learning and the impact and advantaged and disadvantages of digital education. The second section in the chapter attempts to define digitalization in higher education, its benefit, digital tools and digital platforms. Besides, this section introduces the evolving role of the teacher in the use of digitalization in higher education. It also represents the skills that the teacher need in digital age. This chapter ends up with pointing obstacles of applying digitalization in higher education.

1. Definition of Digitalization:

Digitalization is the most notable technological trend in both societal and commercial spheres in the twenty-first century and it has many definitions.

Machekhina (2017) defined Digitalization as “the transformation of all information types (texts, sounds, visuals, video and other data from various sources) into the digital language” (p. 02)

Similarly, Parviainen et al. (2017) claimed that digitalization is the process of digitizing and the transformation of analogue data (esp. images, video, and text) into digital form, while Clerck (2017) stated that digitalization as the use of digital technologies and of data in order to generate profits.

In accordance with the above-mentioned claims, João et al (2020) added that digitalization is converting analog data into a digital language which in turn can improve business relationships between customers and businesses, adding value to the economy and society as a whole.”. In other words, the term digitalization means every process through which traditional information is converted into a digital form, whether this information is images, text data, audio files, or any other digital form by means of an electronic computer.

2. Definition of Digitalization in Education:

Digital education is a revolutionary method that has spread in recent times to transfer knowledge, because it balances students' differences in terms of circumstances (Harpreet, 2019)

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Falasteen (2018) defines digitalization in education as a traditional teaching methods like paper documents are being converted to digital formats that can be understood by students. This process is known as digitalization in education. Digitalization is transforming the classical method of education with papers into digital education with technology.

Arısoy (2022) claimed that “Digitalization in education can be defined as using digital technology to teach students” (p. 1800).

It can also be defined as classrooms using digital tools that allow teachers to design interactive lessons in the form of programs and blended or full online courses. In another words, Digitization in education is the integration of all information’s and communication technology in all educational and learning elements in several forms of digital data, pictures or videos and it has revolutionized learning through hybrid courses, personalized instruction, and innovative strategies.

3. Types of Digital Learning:

In order to improve educational experiences and outcomes, digitalization in education refers to the integration of digital tools and technologies into the teaching and learning processes. It entails utilizing numerous digital tools, applications, and platforms to change conventional teaching methods and make them more effective and interactive, and it contain various types each focusing on different aspects here are some of them:

3.1 E-learning:

According to Showkeen (2015), E-learning centers on its being a learning method and a technique for the presentation of academic curricula via the Internet or any other electronic media inclusive of multimedia, compact discs, satellites, or other new education technologies. E-learning, in other words, is education based on modern communication methods, including computers and their networks, various audio-visual materials, electronic libraries, websites and search engines, whether learning is in the classroom or at a distance.

Antoney (2018) supporting the above definitions by claiming that E-learning is the intentional use of information technology and networked communications in teaching and learning.

Moreover, Jabar (2020) defined that “E-learning unites two main areas, learning and technology. Learning is a cognitive process for achieving knowledge, and technology is an enabler of the learning process” (p. 08). In another definition E-learning relies mainly on computers and networks or any tool have a relation with technology to transfer knowledge and skills.

3.2 Blended Learning:

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Most of the definitions are just variations of a few common themes, these is the three most commonly mentioned definitions:

According to Graham (2006), BL is combining online and face-to-face instruction.

Using information and communications technology learning is extending and blended learning is mixing between face-to-face and online learning and this help to enhance the classroom experience (Watson, 2008); blended learning is help to improve effectiveness and efficiencies by reducing lecture time and enhancing the student motivation and learning through the online activities and courses

Avazmatova, (2020) assume that blended learning is “the thoughtful integration of classroom face-to-face learning experiences with online learning experiences” (p. 508). Blended learning is a pedagogical method that combines old-style face-to-face classroom instruction with the modern style virtual or digital learning ways.

3.3 Mobile Learning:

According to Ravi et al (2014) mobile learning is “Any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies ” (p.39).

Mobile learning is the capability to provide educational content on individual pocket devices such as smartphones and mobile phones (Praveen ,2019)

Mobile learning, commonly referred to M-learning, is a new method of utilizing mobile devices to access educational content. As long as the people have smart mobile device that is online, he can learn whenever and wherever he wants.

3.4 MOOCs:

Rani (2002) identified a massive open online course as an online course aimed at large-scale interactive participation and open access via the web. Thus, MOOCs is a free web-based distance learning program made for many students who are spread out geographically.

According to McAuley et al (2010) MOOC is an online course with the option of free and open registration, a publicly shared curriculum, and open-ended outcomes. MOOCs integrate social networking, accessible online resources, and are facilitated by leading practitioners in the field of study.

3.5 Gamification:

Kiryakova et al (2014) defines Gamification as the use of methods and elements in a context different from games where the use of game mechanics improves motivation and learning in formal and informal settings

Rincon (2022) indicate that gamification related to integrating game elements for the cognitive, emotional, and social aspects to converge in the learning process. Gamification is the use of games on the field of education in order to motivate students and enhance them skills in various aspects.

4. Why to Digitalize Education?

Digitalization has spread in several areas such as industry and the economy, and recently it has spread widely in education.

Mahanta (2012) emphasized that digital education offers instruction that can be delivered anytime and anywhere through a wide range of electronic learning solutions such as Web-based courseware, live virtual classes, video and audio streaming, Web chat, online simulations.

According to Lin et al (2017), through digital education, teachers can determine the time and place for online learning and do not have time pressures or obstacles like traditional learning, which makes them restricted and has great costs. Textbooks, transportation, food, accommodation and many other things that cost the student or the teachers. Thus, the occurrence of digitalization helped reduce this cost, because digital technologies are less expensive than traditional teaching methods because they offer online education without physical presence.

Kuznetsova (2020) set that is for the possibility of implementing a more flexible individualized educational path. Digital education offers equal educational chances regardless of a person's attributes, including their health, where they live, their financial security, and how independent they are accustomed to being. The child will comprehend that he must work hard to learn because the future system presumes independence. A solid education will strengthen the student's character and the learner will perform better without unnecessary tutoring.

Mardon (2021) pointed that the use of digital technologies in education aims to rise the attention, motivation, and needs of students. Next, providing a wide range of opportunities to choose the content they want. In addition, it aims to develop the building of students' thinking. Moreover, digitalization in education support all types of student cognitive activities skills and

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competencies, revealing students' creative potential, helping students controlling modern information technology. Finally, Deepanjali and Adesh (2022) confirmed that digitalizing education is for a better education: Students are constantly searching for teaching strategies that inspire and motivate them to study well without becoming bored. The use of online games, assessments, and exams in learning through digitization aids in better learning, learning through games is an unusual method of teaching that is now widely used in schools.

To conclude, digitalizing education aims to facilitate the education process for both the learner and the teacher in several domains, and to enhance the student motivation and make the education process more enjoyable and beneficial.

5. Impact of Digitalization in Education:

The educational systems have undergone significant change because of digitalization, which has had an impact on every part of them from teaching-learning strategies to managing an institution's overall business. Technologies are needed in order to administer services in a school, such as the payment of bills, membership dues, and tuition and test fees. (Deepanjali 2022)

Timotheou et al (2022) claimed that digitalization effects are enhancing the access to resources, improved communication, participation, develop self-esteem, and enhance the engagement of special needs students

Both students and teachers can improve their capacities to develop a dynamic educational process by digitizing the learning experience. The education sector can adopt digital transformation in a variety of ways, including new student recruitment, online learning, student assessments, individualized learning experiences, and exams.

6. Advantages of Digitalization in Education:

Numerous benefits of digitalization in education have completely changed how people learn:

Wahlstrom et al (2003) claimed that Digital education let student have more choices in course offerings times without being anxiety about class struggles and distance learning is a part of digital learning. In addition, it Protect personal data and privacy from damage in digital data such as exam papers, points, files of teachers and research papers.

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According to Morbitzer (2013) the fact that computers reduce the burden on teachers and improve education, and that computers and the Internet are great tools for equalizing educational opportunities for young people, should be treated as a myth.

Popova (2020) found that the attendance, responsibility, and performance of students become more developed. In addition, the video conferencing mode like ZOOM is easier to hear what students are saying, even if they are speaking in a low voice; If the teacher remains online after class, many students have the chance to talk and ask questions, and they develop very interesting conversations full with information's students need.

Digital education also Increasing the access to education i.e.: courses of famous professors and teachers from anyplace in the world are becoming available because of the internet, including for students with incapacities, also there is no problem for the time of learning it's available in any time. Yu et al (2020), so when the student wants to learn or the teacher want to teach in any place without going to traditional classes it will causes Lower course development costs. By centralizing the development of some of the learning tools, institutions may free up time for instructors to focus on other important teaching or training matters. They added that digitalization in education have a positive effect on the economic field. That is to say, it reduces costs compared to traditional method either for the normal lessons or in courses because it, first, decrease the transportation costs especially for them who live in far places. Second, it reduce also the expenses of papers, textbooks, handouts and other materials so by the digitalization their will e-learning, e-courses and e-books online, Analyzing data through fast online exchange with other students, professors, or professionals from around the world so the you can share . (Aliu et al, 2023)

Digital learning tools allow students to create professional quality of products such as Presentation and publications, Also, digital tools mean more and better writing for students to share their creations by using digital techniques, pictures, videos...etc. (Vasylyshyna et al. 2020).

In addition, Oleksii and kovoroda (2022) emphasized that when using the digital tools in presentations such as computers with data show with (images, audio, multimedia, game methods, etc.) it increased students interesting in the educational process and enrich the content of the teacher.

Digitalization in education has brought a numerous benefit. Students have more flexibility in choosing courses and can engage in distance learning, reducing class struggles. It also safeguards personal data and privacy. Digital education has improved attendance, responsibility, and performance of students. Video conferencing tools like Zoom enable better

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communication and discussions, even for students with low voices. Access to education has expanded, with courses from renowned professors worldwide being accessible to all, including those with disabilities. This accessibility and flexibility lower course development costs and decrease transportation and material expenses. Digital learning tools empower students to create professional-quality products and enhance their writing skills. Additionally, the use of digital tools in presentations increases student engagement and enriches the content of teaching.

7. Disadvantages of Digitalization in Education:

7.1. Health problems:

Spending a lot of time in front of a computer or mobile screen or other digital learning tools can be affecting harm to the health of students or teachers because viewing images on a computer monitor can be challenging for the human visual system. The display screen consists of individual points that are luminous and flickering, unlike continuous lines on paper. Therefore, working on a computer can put a significant strain on our eyes, especially if the monitor is of poor quality. This can lead to a condition known as "computer vision syndrome," which is characterized by symptoms such as deteriorating vision, watery eyes, headaches, fatigue, and double vision.

In addition, spending excessive time in front of PCs or mobiles affects sleep quality and this leads to delaying the onset of sleep, and reducing the duration of sleep, lack of sufficient sleep can result in anxiety and depression.

Mocci, & Corrias (2001) clarified that there is a danger of deterioration of a person's social interaction because the traditional education process acted as a place of active 'live' interaction of the individual with other people.

Spending hours in the digital world causes fatigue and can lead to cerebral exhaustion and a range of symptoms, like troubled sleep, in addition to this sitting in the wrong position in the workplace is the main reason for the development of diseases of the spine. Because there are people who do not know how to sit in a comfortable position.

7.2. Social problems

The university serves as a place to develop continuous interaction with the community of different ages, status and gender. This communication might be lost when using the exaggerated or semi-permanent use of digital learning as it makes the person isolated because he lacks the social interaction and cooperation provided by traditional learning in the classroom.

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It may limit the development of a student's social skills such as accepting criticism and self-control.

Popova (2020) added that, concerning teachers, there is an insufficient competency for using the digital tools and platforms and programs, especially by the older generation of teachers who spend their life teaching with the classical method.

Bouchikhi (2021) usually communicating with teachers in a traditional classroom is not a challenge for students to setting when they need help with assignments or have questions about the course. They can easily contact the teacher before or after class unlike the complexity of technology requires learners to have certain equipment, such as a computer, webcam, and reliable internet connection. Actually, if the internet connection lost or there are issues with the software the session might be interrupted top the learning process. In addition to that Sometimes the teacher is not available when the students need his help to ask or get information's because not all courses can be sent online, some courses require more personal touch so it is not delivered well by the digital tools.

Zeniakin (2022) noted that an increase in the teacher's time load which is not always taken into account when calculating their salaries. In other words, in the traditional classes there is a limit time that the teacher come and live on it but in the digital education there is not, Moreover, digitalization is that it allows students the opportunity to cheat, since the study is online, so exams, assignments, and research are the same, so there is no guarding from the teachers, since it is remote, so the student can search for answers and information without trouble.

Section Two: The Evolving Role of the Teacher and Digitalization in Higher Education.

1. Digitalization in Higher education:

Thoring et al, (2017) maintained that University IT is challenged by the accelerated process of digitalization in higher education which, among other things, becomes manifest in a pervasive use of information technology for the support of teaching and learning. Since digitalization in higher education is a new trend, it is a challenge and a high quality added to the education.

Szyrocka et al (2022) emphasized that Digitalization in education is a very significant global trend, which will fundamentally alter the nature of education in the coming decades and enable the creation of services of much higher quality than currently available, they added that “The Covid-19 epidemic shown that smart learning technologies have become one of the most important components in integrating universities into the global higher education market”, the Covid-19 is one of the most important reasons that led to digitalizing education especially in universities so it has shown that digitalization in education have an important and benefit place in higher schools.

Thus, Universities employ digital technologies to evaluate the knowledge that students have learned in a variety of informal and informational learning situations. The use of electronic exams, in the opinion of experts, gives staff and students more flexibility and convenience.

2. The Benefit of Digitalization in Higher Education:

The covid-19 has changed the world in many ways, and it clearly seems impossible to go back to the pre-pandemic days. This also applies to the education system, where the pandemic has transformed the way teaching and learning are done, the higher education sector is considered one of the important sectors, because development and progress in society depend on the outputs provided by the university, which contribute to development in various sectors. The world is currently witnessing an information explosion, which obliges the university to keep pace with this informational development in order to catch up with the ranks of developed countries in the digital field and to achieve the knowledge society that countries aim to.

Oleksii (2022) stated that Digitalization in higher education allows students to easily access lessons, including those with special needs, because it allows them to participate in online training courses and other university activities without facing the difficulties that they

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may encounter when implementing the traditional learning model. This also applies to people who work in other fields and are not allowed to attend classes.

Alenezi, M (2023) identified that the digitalization of education involves students using mobile and internet technology, broadening their knowledge and extending their bounds. Students develop new abilities required for success in the twenty-first century through the effective use of digital technology, the engagement of education speakers in independent research, the choice of information, and participation in project activities, He add that Digital education gives students the opportunity to learn in many ways making them ready for the workforce of the future, wherever most of the future jobs will require digital skills and knowledge , also digitalization will ensure the effective use of resources for researchers and expedite the processing of their requests , it will make them research easier by digital tools rather than the old method by searching in books , journals and magazines this process of digitalization will facilitate them work and accelerate it.

In addition to that, it increases students' interest in the educational materials being studied by increasing the possibilities in their presentation methods (images, sound, multimedia, playing methods, etc.) and enriching the content; These capabilities make the study more attractive to them, especially since higher education students use it to present their research.

3. Digital Tools and Platforms used in Higher Education and Learning:

3.1 Digital tools:

According to Oikonomou and Patsala, (2020) Digital tools defined as Software, programs, applications, platform and (online or offline) resources that can be used with computers, mobile devices or other digital devices that help people complete a task.

According to Vygotsky (1978) There are many kinds of tools that mediate people's actions. Some are physical objects, such as computers and mobile phones, while others are abstract codes or systems of meaning, such as languages, counting systems, or computer code. Tools are used to complete a task, express oneself, and/or create and maintain relationships. Vygotsky argues that physical objects and abstract tools such as language are connected, as they both serve a mediating function.

Indisputably, the integration of digital learning tools has transformed traditional face-to-face learning into e-learning and blended learning that simplifies self-education of teachers and learners. (Oksana 2022).

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To conclude, digital tools are any electronic tools, programs, applications, websites on the technology tools such as computers, smartphones, tablets...etc., that is used to enhance learning and teaching

3.2 Digital Platforms:

Higher education institutions have integrated information and communication technologies (ICT) in the educational process and used the digital platforms to support student learning, teaching methods, and faculty members. Thus, digital platforms use started to grow significantly in the last years, especially in higher education. Cerezo et al (2016); These platforms offer a variety of configurable features, that allow the creation of online courses, themed sites, work groups and learning communities.

Zanjani, (2017) stated that The focus was on the digital platforms and their related helpful tools to provide opportunities for knowledge-sharing higher-order thinking skills support through methods of conversation and active learning. Digital platforms are educational tools that develop learning processes and provide a set of tools that allow interaction and communication between students themselves on one hand, and between the teacher and his students on the other hand. They also facilitate participation in different tasks. (Valencia et al (2017)

In addition, educational institutions in various countries has forced to use e-learning and use digital plat- forms in the educational process when the Covid-19 appear. Karakose, (2021)

According to Alturki and Aldraiweesh (2021) Digital platforms that can be used in the educational process to provide flexible and reliable learning environment are numerous, Digital platforms are a vital learning environment to support sustainable education, as they include several tools that motivate students to continue learning.

In addition, digital platforms provide tools that enhance participatory construction of knowledge, which helps maintaining the impact of learning and supports the sustainability of learning outcomes (Alzahrani, et al 2022).

Furthermore, Li, X et al (2022) emphasized that Digital platforms facilitate independent learning skills, and such skills are considered among the most important inputs for sustainable education.

Interactions through the digital platforms are not very different from traditional interactions in face-to-face classroom. Through these platforms, students and teachers can exchange concepts and information, and assess and solve problems that may face students during the learning process.

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3.1.1 Moodle:

Razzaq and Badie (2014) defined Moodle (Modular Object-Oriented Dynamic Learning Environment) “is basically an Open Source e-learning platform. Moodle is a Course Management System (CMS) - a software package designed to help educators to create quality online courses. Such e-learning systems are sometimes also called Learning Management Systems (LMS) or Virtual Learning Environments (VLE) “.

Moodle presents an excellent platform for resources and communication tools. It was created by Martin Dougiamas, a computer scientist and educator who deeply believes that a CMS should be created by an educator and not by an engineer (Costa et al 2012) .

As result, Moodle is an online open source e-learning platforms which teachers create their courses on it with high quality, and the student found it with easy way.

3.1.2 ZOOM:

According to Derar (2020). Zoom, “was founded by Eric Yuan in 2011. It is a web-based collaborative video conferencing tool that provides quality audio, video, and screen sharing, which makes it great for virtual conferences, online lectures, online meeting, webinars, and more. In many universities, it became readily available for students, staff, and faculty”

In addition, Johnson et al (2022) emphasized that Zoom is one of many internet-based video-conferencing applications—including Microsoft Teams, Adobe Connect and Google Meet—being used by Post-Secondary Institutions (PSIs) to convene recordable spaces for teachers and learners to meet synchronously. When launched, Zoom defaults to take over the user’s entire screen with a mix of rectangular boxes re-presenting oneself and the other participants who are tuned in. Participants can choose whether they are visible, that is, streamed via live video camera, and too, may select a virtual background covering over their surroundings.

3.1.3 Google Meet:

According to Erwin et al (2022) “Google Meet, also known as Google Hangouts Meet, is designed to allow dozens of participants to attend the same virtual meeting and chat or share video from any location with internet connection”. In other words, google meet is a digital platform that allows dozens of participant’s teachers or students in meeting face to face in video call or chat from any place in the world.

3.1.4 D-space:

According to Velmurugan (2013) “The Massachusetts Institute of Technology (MIT) Libraries and Hewlett- Packard (HP) Labs have worked together on the development of an open source system called D-space that functions as a repository for the digital research and educational material produced by members of a research university or institution”. D-space is a ground breaking digital repository system that captures, stores, indexes, preserves and

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distributes digital research materials .it refer that any research resource has stores to preserved as a digital document in D-space.

In other words; we can say that digital tools refer to any technologies tools such as mobiles devices, computers; applications.... etc. where platform is any electronic tools for communication such as Moodle, google meet. etc.; so digital tools are used to access to digital platforms.

4. The Role of the Teacher in the use of Digitalization in Higher Education:

After the advent of technology, and the tools and machines that resulted from it, many people believed that the education process had declined, and that the role of the teacher had diminished and receded. Taking on new roles, many efforts were imposed on him, and with the technological development that took place, the teacher's job departed from its traditional role, and new jobs became available to him. Rather, his role became more important and more difficult in managing the educational process efficiently.

Weinberger et al (2002). Stated that The responsibilities of teachers have evolved and are still evolving, and today rather than just imparting knowledge, teachers becoming a constructor, facilitator, coach, and creator of the new learning environments. They also need to be independent professionals with open minds and critical thinking skills, and to be collaborate, and mediate between learners and the information they need to know. Teachers have evolved beyond simply transmission information; they now play the role of shaping learning experiences, raising students' development as builders, mentors.

Prensky (2012) argues that teachers are the ones who need to change because students cannot look backward, he stated "As educators, we need to be thinking about how to teach both Legacy and Future content in the language of the Digital Natives " because the new generation is a digital generation so as he mentioned "Today's teachers have to learn to communicate in the language and style of their students. "In doing so, we are enabling them to navigate the evolving world while respecting the past and preparing for the future." The teacher's role in the new model of teaching and learning should be to assist the student in the process of acquiring skills, passing and being a display of the matter, a supervisor of the student learning in their own training, even this generation of students are good in using digital tools but the teacher still the origin source that can the student relies on him.

Pushpanathan (2012) mention that JoAnn Harrison suggested that the e-teacher will not be "the person who knows all the answers and decides what the question will be" but it is the e-teacher who "becomes "an expert learner, «who can help students solve problems and find answers to their questions, rather than simply providing answers, e-teachers act as facilitators,

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encouraging students to independently explore and discover knowledge. They support students in recognizing problems, asking questions and finding solutions. The focus shifts from mere memorization to developing deeper understanding and the ability to apply knowledge in the real world.

In addition, technology should be used to facilitate learning, using digital tools to guide students and customize activities to meet the needs of each student because with digitalization, the student will have the opportunity to have more questions and inquiries for the teacher without being restricted by time, which means that the ability of students to learn will become easier. (Collier 2013).

Jayendrakumar (2016), claimed that in today's digital and knowledge-driven society of the 21st century, Higher education institutions encounter various prospects and obstacles due to the advent of the digital revolution. This is because these institutions fulfill multiple scholarly roles, such as teaching and research, which are influenced by the accessibility and utilization of digital technologies. and also it is encountering significant obstacles as it shifts from traditional learning methods to more innovative approaches. This shift also brings about a pressing need to redefine the role of teachers, who are no longer mere knowledge providers but instead take on new responsibilities as facilitators and coordinators. This transformation necessitates that teachers adapt flexibly to their evolving tasks and adequately prepare themselves for their new roles.

Collier et al (2016) claimed that The quality of teaching that the student receives is one of the most important factors contributing to the success of the student, and this is what resulted from the research of teachers and digital learning, as taking full advantage of digital learning opportunities and technology in the classroom will require a shift in the role and skills of teachers, and among these roles: Digital learning will transform the role of the teacher From the educational “owner” - the lecturer who owns the content - to the educational “designer” - the facilitator who creates learning experiences, as teaching by digitization is committed to being more creative and sophisticated in order to attract students’ attention.

Sharma (2017) identifies that in this digital age, teachers are confronting with new challenges every day in respect of students, their individual needs, new hardware’s and software’s and own developmental needs.

However, the arguable question is not if teachers will be replaced by digitalization is about what role teachers should play in helping themselves and students adjust to social changes.

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Also Teachers will need to be comfortable navigating technology and digital resources to support student learning. This means that teachers must have experience in using digital tools so as not to face difficulties while teaching with them.

5. Skills Needed by Teacher in Digital Education:

In the digital age There are certain skills that need to be built into the teacher in order for him to play his role effectively as a learning facilitator.

Sharma (2017) recount this skills:

5.1 Networking Skills:

Because of students have online access to course materials ahead of time, they have a prior idea of what will be taught in the classroom. This knowledge influences and shapes the curriculum that teachers choose.

Networking skills increase the ability to learn collaboratively, which benefits both students and teachers. In a collaborative learning environment, students and teachers can learn and teach more effectively.

5.2 Communication Skills:

In the digital age, social media communication skills are increasingly required in education, in addition to traditional communication skills such as reading, speaking, and clear writing. These skills include a variety of technical skills such As creating YouTube videos, conducting webinars, building an online digital library, and preparing online documentation to demonstrate processes. In addition, it is important to communicate and share information effectively with the broad online community, gather and provide feedback, and keep abreast of trends and ideas. Effective communication skills, including through social media, allow teachers to expand their knowledge and connect with experts.

5.3 Nurturing Skills:

A nurturing method used by teachers when dealing with students. The teachers put the needs and demands of the students first and displayed a high degree of dedication and selflessness. The focus is on teachers understanding and responding to students' interests and imparting knowledge in ways that encourage them to connect with the world around them. Teachers try to be considerate of students' learning approaches and create a supportive and engaging environment.

5.4 Thinking Skills:

Critical thinking, problem-solving, creativity, originality and strategizing are of the most important skills needed in a knowledge based society by a teacher. education is developed more

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and more and is depend on the creation of new knowledge, Teachers must possess these skills to effectively navigate and contribute to this ever-changing educational landscape.

And finally Mrs. Manisha Sharma (2017) The teacher is the center of any educational learning process. In this digital age, the teacher is responsible to the society that trusts him to shape his future generations for better civilizations and to the nation that trusts him to make its future brighter and more advanced. To deal with this accountability, the teacher needs to effectively use ICT along with their traditional teaching techniques to facilitate critical and innovative thinking in their classrooms and only then one can dream of a better knowledge society and digital education in the world around us.

6. Obstacles of Applying Digitalization in Higher Education:

Digital learning helps higher education change to become learner-dependent. Students can choose the best match for their needs and have unlimited access to their educational resources whenever and wherever they like. Additionally, it improves the standard of instruction and learning, But Digital learning integration into conventional education is a difficult task. All parties involved in the educational process, including teachers and students, face several difficulties and obstacles.

According to Suleiman (2020) The lack of physical interaction between the teacher and the student as in traditional education there is the teaching time itself, with the question and answer being asked, in real time there is an opportunity for discussion such as the possibility of chance encounters in the corridor after or before the lesson in the classroom ... all possibilities that cannot be reached to digital education.

Digitalization it's not that easy to use it, this system requires skilled people to execute, apply, and administer this technical system, it requires specialized professionals to manage digital educational systems. Gamal et al (2021).

In addition, the lack of a strategic plan and university consortia hinders the effective adoption of e-learning. The use of digitalization requires standardization on the part of all universities.

Qashou (2021) emphasized that The lack of the technology infrastructure required for e-learning is one of the challenges faced by students in underdeveloped nations. In addition to university computer labs, technological infrastructure includes computers, computer networks, and Internet access.

She adds that Many pieces of software and hardware are needed for the procedure. For instance, the university needs both primary servers and backup servers. In order for professors and students to access the E-learning system and engage in its different activities, it also requires

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contemporary software. Programs to manage and track consumption are necessary and cannot be disregarded.

And she mentions that The attitudes of pupils regarding computers and the usage of information technology are another barrier. Additionally, in order to use E-learning, a student needs have access to computers and the internet both at home and at their university.

7.Literature review:

Digitalization has spread on the period of covid-19 in various aspects of society, including education, and specially in higher education, and with the advent of technology the role of teachers in classroom has evolved significantly.

Teachers are expected to become technologically oriented and responsible not only for their teaching but also for their students' learning. Today teachers are required to be facilitators, in this digital era, teachers' role has shifted from mere preacher to the manager of students social and emotions behaviors (Jayendrakumar 2016).

Hendrik et all (2018) in their article “The Performance of Teachers in the Digital Era in Improving Learning Quality” which aims to determine the performance of teachers in the digital era in improving learning quality. The Results showed that teachers' performance in the digital era in improving learning quality are better, As a model by way of learning and teaching in the digital era, the teachers, among others have the ability to collaborate with students, peers and communities in the use of digital sources, also teachers have the ability to build networks and have a sense of social responsibility, moreover teachers have a discipline of time and are proficient in using technology, in addition teachers are more at ease in preparing learning tools in the digital era and finally teachers are more creative and innovative in teaching and learning.

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Ally (2019) carries out a research titled “The Digital Teacher in a Mobile and Always-on World”, The study examines and proves that future teachers need to work in a digital world where learners already feel comfortable using technologies and are always connected. They will become digital educators who use technology to design, deliver and support learners regardless of the learners' location, status or education level. He added that the power of digital technology will allow the digital educator to meet the individual needs of learners and allow access to learning materials from anywhere, anytime for lifelong learning. Also, their role will change from teaching to facilitating. However, Teachers should view the use of digital technology as a way to reach the students who were unreachable in the old education system and to provide education for all.

Alberola et al (2022) investigated “teacher’s beliefs about the role of digital education resources in Educational Practice”, according to his study teachers value the integration of digital resources into the classroom, he adds that according to the perception of teachers is that the integration of digital resources in their educational practice was significant and improved the quality of the educational process.

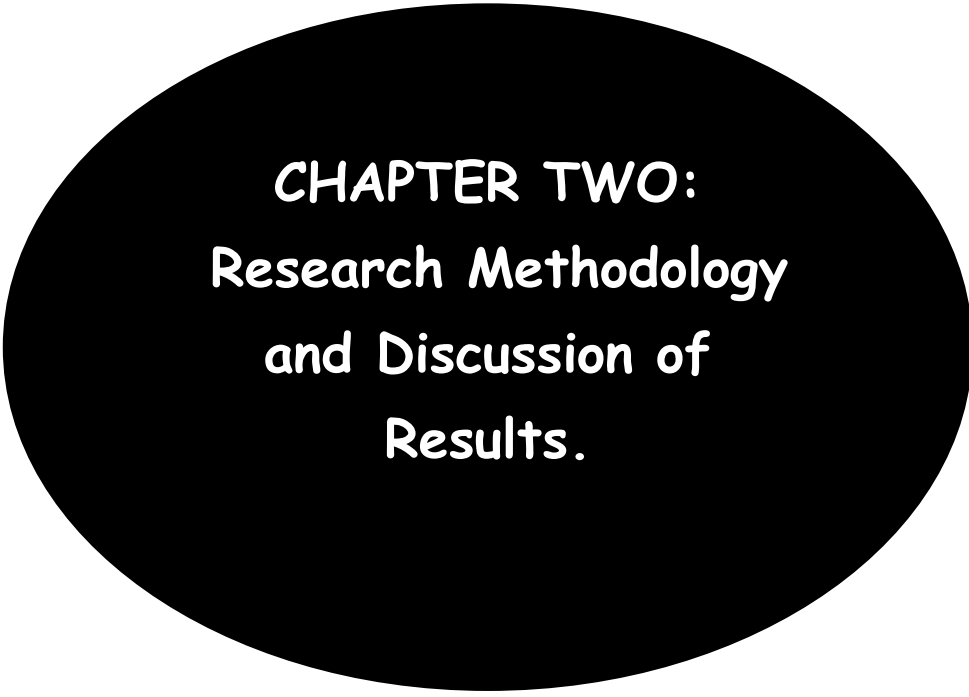
In 2022, Todorova revealed in a study about “ The Teacher in the Digital World - New Roles, Representations, Perceptions “aims to open a discussion on what the new roles of teachers in the Digital World she identified that Teachers need not only to learn how to use technology in the classroom but also to acquire a better understanding of the impact of technology on our lives and to teach with this understanding their students to take advantage of the opportunities and avoid the dangers of the Digital World.

Conclusion:

This chapter was divided into two sections. First section was meant to introduce digitalization in its general framework and to remove some ambiguous surrounding of this concept. Many explanations were offered as regards its utility in education. The most important types of digitalization in education in addition to why to digitalizing education also its impact and its advantages and disadvantages and explained to have a clear theoretical view.

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Second section shed light on digitalization in higher education as seen in the section, it does not matter there have been different definitions given to digitalization. What matters is that all those definitions agreed on one idea that digitalization in education or higher education is making the education with higher qualities. Moreover, the benefits of digitalization in higher education are a lot in addition digitalization have two types digital tools and digital platforms the Study touched their definitions and types. in the last part of this section was meant to introduce the role of the teacher in the use of digitalization in higher education and finally the obstacles of applying digitalization in higher education.



**CHAPTER TWO:
Research Methodology
and Discussion of
Results.**

INTRODUCTION:

The current chapter represents the methodological fieldwork of the study.

this research aims at investigating the evolving role of the teacher in the use of digitalization in education; It is divided into three sections: the first section is devoted to the description of the research design, population sampling, and setting in which the research takes place, as well as shed light on the main data collection tools used, the second section is devoted to data analysis, interpretation, and discussion of the data collection tools, and the third section is devoted to the general conclusion, and recommendations for further research. This chapter attempts to collect data in order to answer the main research questions.

Section one: Research Methodology and Structure:

This section is devoted to the research methodology and structure. It provides detailed account of research method, research setting, population, sampling, and data collection tool.

1. Research Methodology:

The study is based on a quantitative approach as it presents the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomenon of digitalization in education.

2. Research Tool:

Quantitative data was gathered using a questionnaire as a research tool. Because the use of questionnaires is one of the most efficient methods for gathering data.

According to Satya (2012) a questionnaire is a list of inquires that are made to people in order to collect statistics on a particular topic.

The questionnaire of this study consists of 12 Questions that explore the perception of teachers about the use of digitalization in education.

3. Research Setting and Procedures:

The data of the current study are gathered at Mohamed Boudiaf University M'sila. Algeria.

It is important to note that the questionnaire was distributed hand in hand in different faculties of the University of M'sila at different times of the day in two weeks from 2 may to 10 may.

In addition, the questionnaire was in Arabic for all the faculties except for the English department, since the study was in the faculties of M'sila university there are teachers cannot understand and answer with English language.

3.1. The population:

M'sila university teacher's opinions and suggestions are required in this investigation, thus the subject of this study is teachers from different faculties at M'sila university during the academic year 2022-2023.

3.2 The sample:

The selected sample consists of thirty (30) participants, the target population is teachers of Mohamad Boudiaf M'sila university, 3 teachers from different faculties: faculty of Sciences, Law and Political Science, Mathematics and Computer Science, Faculty of Technology, faculty of Humanities and Social Sciences, faculty of Letters and Language, Institute of GTU, Faculty of Economics Sciences, Institute of Sports, English department.

The selection of sample was based on a number of criteria, which are:

- Teachers from higher education at M'sila University.
- Teachers from all faculties
- mixed gendered
- Experience.

We had a preconception about teachers in different faculties before the questionnaire was distributed to them. Therefore, males and female's teachers having different experience period were chosen.

The selection was based on gender because one assumes that men have the ability to teach with digitalization while women do not. maybe the faculties teaching methods are different and this reflected on the teacher's style so they do not have the ability to teach with it or the opposite; also for the Seniority in teaching it differs a lot young teacher do not think as the old teachers because young teachers are from the digital generation and old teachers are born in the traditional generation. We will discover that on the result of the questionnaire.

4. Description of the Teacher's Questionnaire:

A questionnaire was used to collect data from the selected sample.

The questionnaire consists of twelve (12) questions, (11) of which are closed questions in which the teachers are asked to choose answers with multiple choices, and (1) one opened question in which the teachers are allowed to answer freely according to their points of view. All questions were sufficiently clear and understandable. Each section has its own goals: The first section is directed to provide general information's about the respondents, such as their gender, faculty, years of teaching.

The second section which is entitled by the "digital tools" consists of two closed questions about using of digital tools in education, while the third section consists of two closed questions

are intended to investigate opinion of teachers about digital education and classical teaching; furthermore the fourth section is entitled the role of the teacher in the digital education of six closed questions designed to investigate the challenges that the teacher face when using digitalization and his role on digital education, and finally the lase section is an open question about the overview of the teachers and they answer as their points of view.

The main objective of this questionnaire is to check whether the participants have the same perception and ideas regarding the matter of using digitalization in education or whether their perceptions and ideas are differing.

Section two: Data Analysis and Discussion

1. Analysis Tools:

As mentioned above, collecting data was done through a questionnaire. After receiving participants answers to the questionnaire, data analyzed and interpreted in order to obtain outcomes that assist to answer the research question. Thus, Microsoft program (Excel) and statistical tools (percent and frequency) were used to describe and analyses collected data.

2. Analysis and Interpretation:

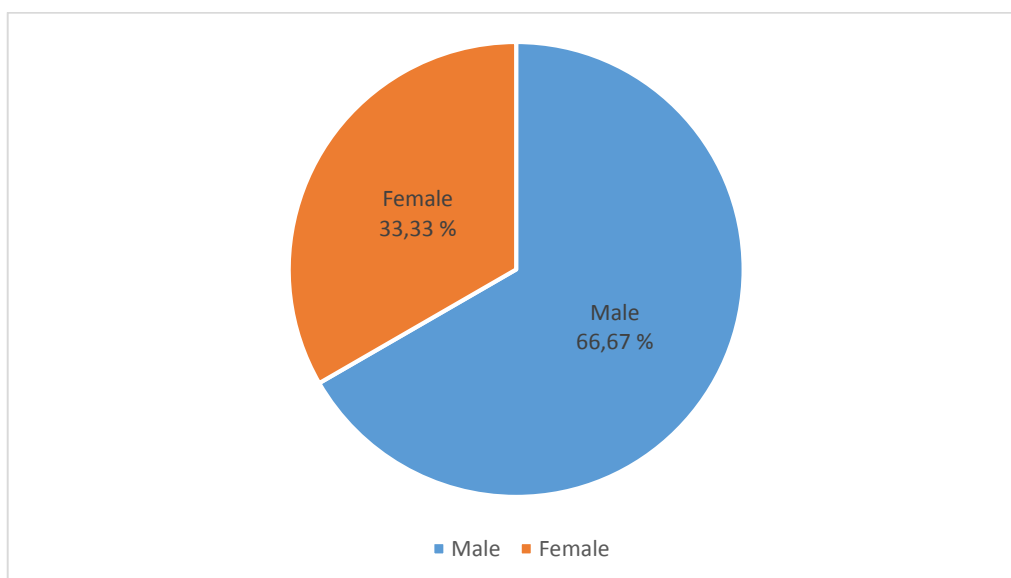
The questionnaire's data is analyzed and the findings are tabulated as under. Frequencies and percentages are calculated for analyses.

Part one: General information about the teachers.

1- Tacher's Gendre :

Table 1: The teachers' gender

Gender	Frequency	Percentage (%)
Male	20	66.67 %
Female	10	33.33 %
Total	30	100 %

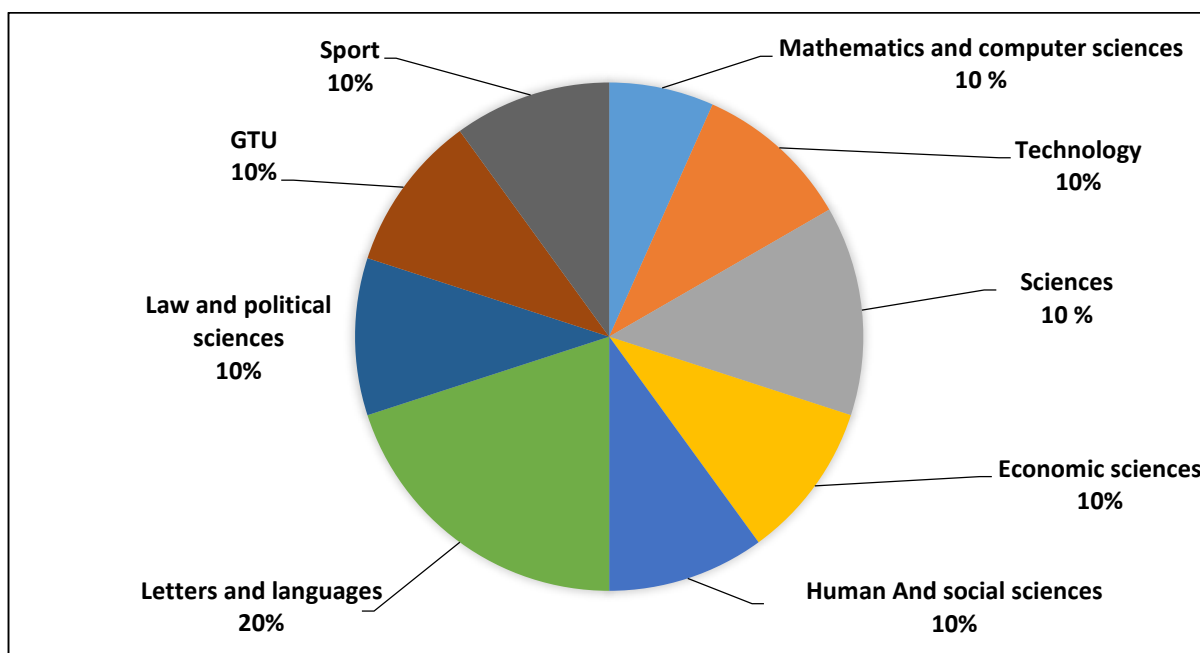


the table (01) and the graph (01) shows the gender of the teachers. The majority of the teachers (20) are male which represents (66.67%), while 10 of them are males (33.33%). Therefore, the majority of the teachers (20) are males.

2- Faculty of Teaching :

Table 2: Faculty of Teaching

Faculty	Frequency	Percentage (%)
Mathematics and computer sciences	03	10.00 %
Technology	03	10.00 %
Sciences	03	10.00 %
Economic sciences	03	10.00 %
Human And social sciences	03	10.00 %
Letters and languages	06	20.00 %
Law and political sciences	03	10.00 %
GTU	03	10.00 %
Sport	03	10.00 %
Total	30	100 %

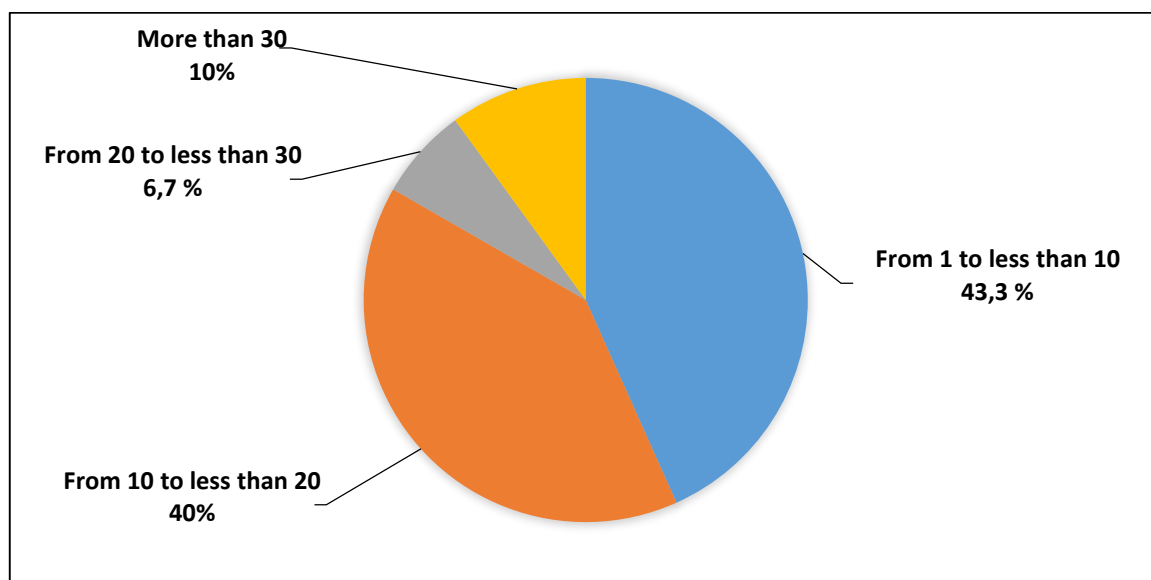


As shown in the table (02) and the graph (02) the responses of teachers about their faculty of education. there are three teachers (03) teaching in each of the following faculties: technology, economic sciences, human and social sciences, law and political sciences, GTU, Mathematics and computer sciences, and sport institute, sciences. while six (06) teachers (20.00%) belong to the faculty of letters and languages. This means that the maximum of the teachers belongs to the faculty of letters and languages.

3- How many years you have been Teaching?

Table 3: Years of Teaching.

Years of teaching	Frequency	Percentage (%)
From 1 to less than 10	13	43.30 %
From 10 to less than 20	12	40.00 %
From 20 to less than 30	02	06.70 %
More than 30	03	10.00 %
Total	30	100 %



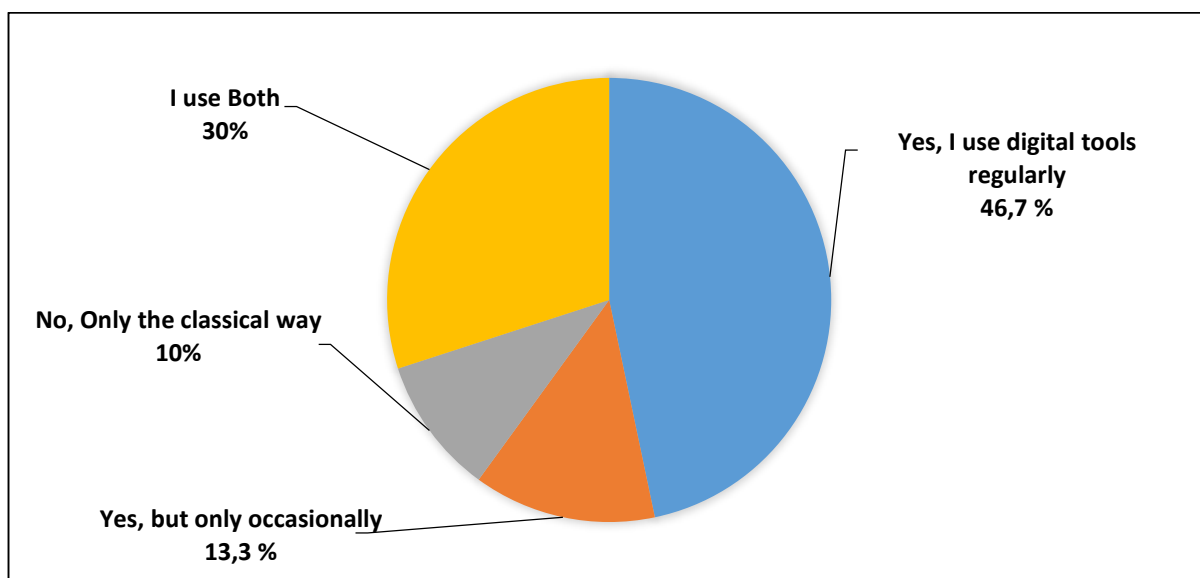
the table (03) and the graph (03) display the responses of teachers about the question: “How many years you have been teaching?”. There are thirteen (13) teachers (43.30%) who have been teaching for (from 1 to less than 10 years), twelve (12) teachers (40.00%) have been teaching for (from 10 to less than 20 years). While two teachers (06.70%) have been teaching for (from 20 to less than 30 years), and three (03) of them (10.00%) have been teaching for (more than 30 years). From these results, the most of the teachers have been teaching for (from 1 to less than 10 years).

Question 01:

Have you ever used digital tools in you teaching before or you just use the classical method?

Table 4: The use Digital tools in Teaching

Question 01	Frequency	Percentage (%)
Yes, I use digital tools regularly	14	46.70 %
Yes, but only occasionally	04	13.30 %
No, Only the classical way	03	10.00 %
I use Both	09	30.00 %
Total	30	100 %



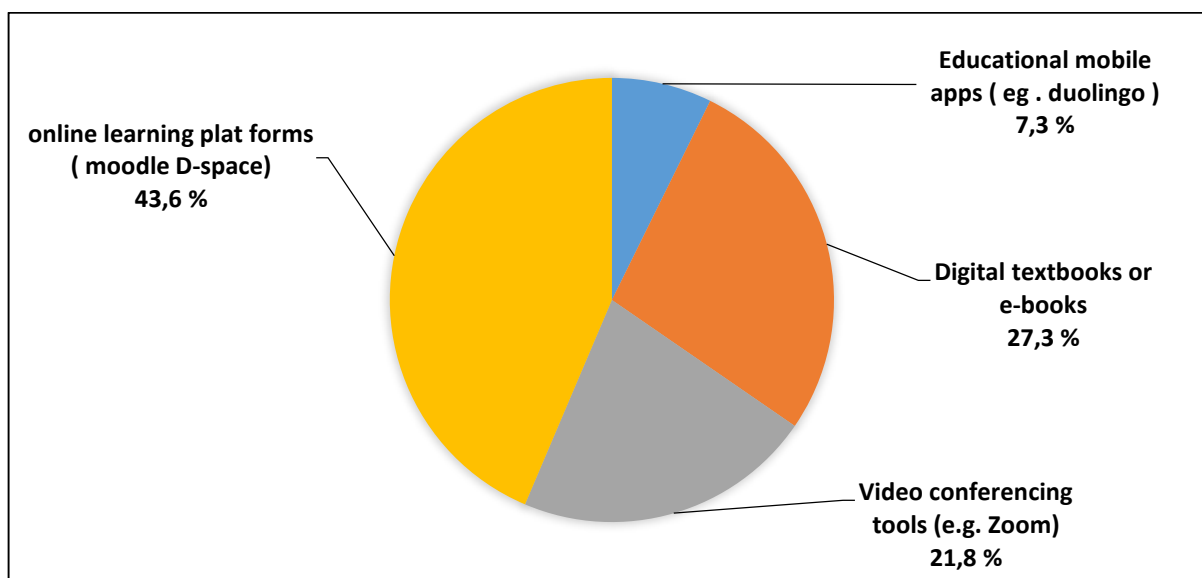
Looking above at the table (04) and the graph (04) shows Have you ever used digital tools in you teaching before or you just use the classical method? According to the results, there are fourteen (14) teachers (46.70%) have chosen “Yes, I use digital tools regularly”, four (04) teachers (13.30%) have chosen “Yes, but only occasionally”. While three (03) teachers (10.00%) have chosen “No, Only the classical way” and nine (09) teachers of them (30.00%) have chosen “I use Both”. Depending on these answers, the majority of the teachers use digital tools regularly in their teaching.

Question 02:

If yes, what types of digital tools or resources are you use or you are interested in?

Table 5: Types of Digital Tools used

Question 02	Frequency	Percentage (%)
Educational mobile apps (e.g. Duolingo)	04	07.30 %
Digital textbooks or e-books	15	27.30 %
Video conferencing tools (e.g. Zoom)	12	21.80 %
online learning plat forms (Moodle D-space)	24	43.60 %
Total	55	100 %



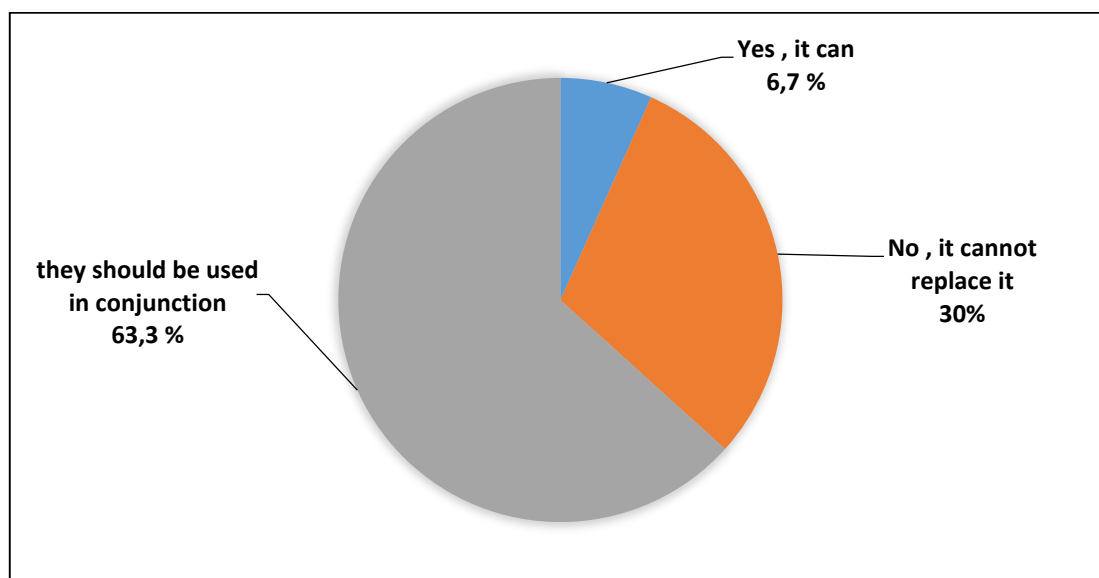
the table (05) and the graph (05) present that if yes, what types of digital tools or resources are you use or you are interested in? According to the results, there are four (04) teachers (07.30%) have chosen “Educational mobile apps (e.g. duolingo)”, fifteen (15) teachers (27.30%) have chosen “Digital textbooks or e-books”. While twelve (12) teachers (21.80%) have chosen “Video conferencing tools (e.g. Zoom)”, and twenty-four (24) of them (43.60%) have chosen “online learning plat forms (Moodle D-space)”. This finding proves that most of the teachers are interested in using online learning plat forms (Moodle D-space) as a preferred digital tools.

Question 03:

Do you think that digitalization can replace classical teaching methods completely?

Table 6: Replacement of Digital Teaching to classical teaching.

Question 03	Frequency	Percentage (%)
Yes, it can	02	06.70 %
No, it cannot replace it	09	30.00 %
they should be used in conjunction	19	63.30 %
Total	30	100 %



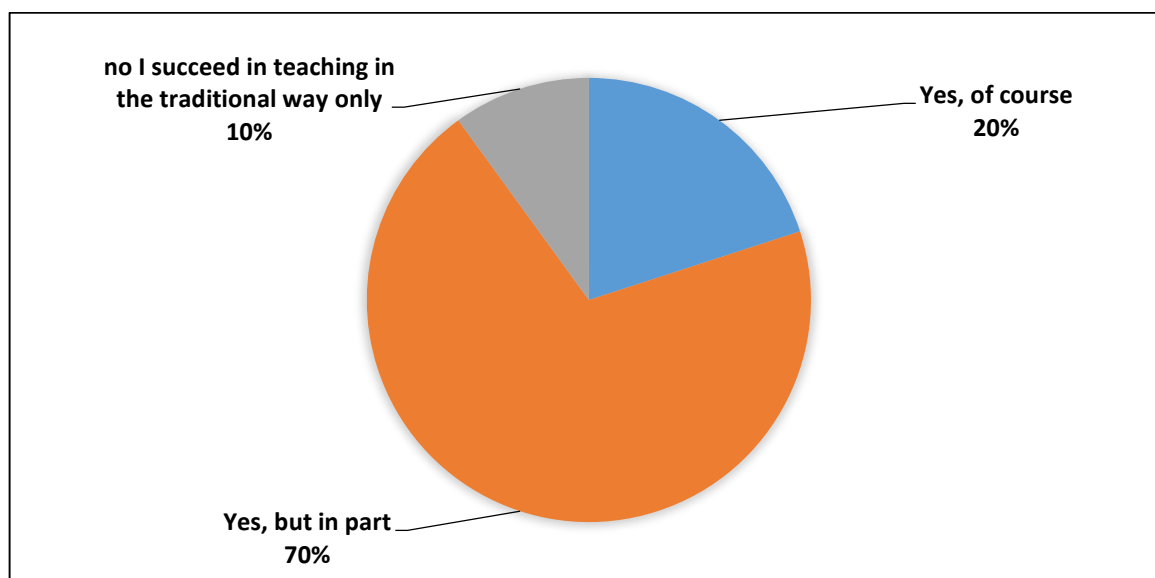
the table (06) and the graph (06) shows Do you think that digitalization can replace classical teaching methods completely? According to the results, there are two (02) teachers (06.70%) have chosen “Yes, it can”, nine (09) teachers (30.00%) have chosen “No, it cannot replace it”. While nineteen (19) teachers (63.30%) have chosen “they should be used in conjunction”. Therefore, the majority of the teachers think that digitalization and classical teaching methods should be used in conjunction.

Question 04:

Do you want to change the classic teaching method to digital teaching?

Table 7: changing the classic teaching method to digital teaching.

Question 04	Frequency	Percentage (%)
Yes, of course	06	20.00 %
Yes, but in part	21	70.00 %
no I succeed in teaching in the traditional way only	03	10.00 %
Total	30	100 %



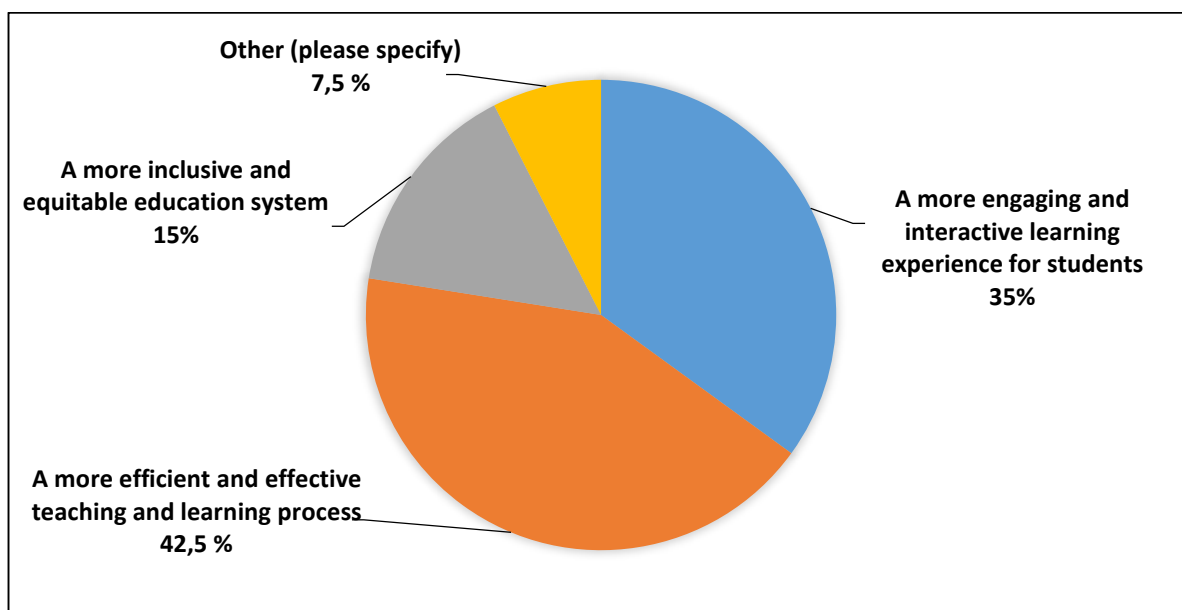
at the table (07) and the graph (07) display Do you want to change the classic teaching method to digital teaching? According to the results, there are six (06) teachers (20.00%) have chosen “Yes, of course”, twenty-one (21) teachers (70.00%) have chosen “Yes, but in part”. While three (03) teachers of them (10.00%) have chosen “No, I succeed in teaching in the traditional way only”. So teachers who want to change the classic teaching method to digital teaching but in part way is more than who teachers who do not want.

Question 05:

How do you see the future of education with the integration of digital tools?

Table 8: the future of education with the integration of digital tools.

Question 05	Frequency	Percentage (%)
A more engaging and interactive learning experience for students	14	35.00 %
A more efficient and effective teaching and learning process	17	42.50 %
A more inclusive and equitable education system	06	15.00 %
Other (please specify)	03	07.50 %
Total	40	100 %



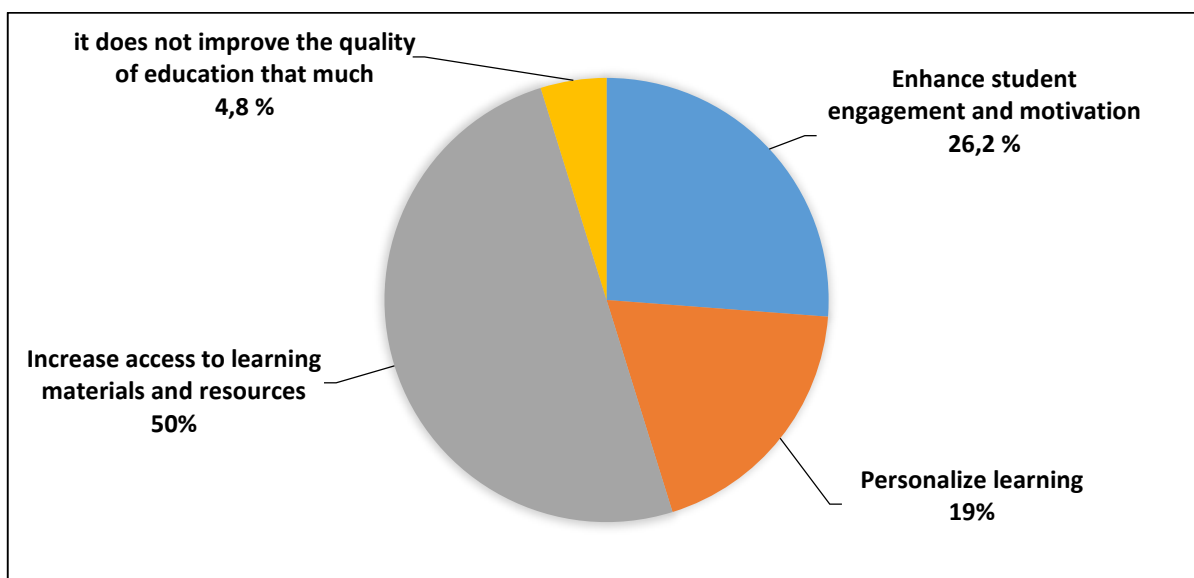
the table (08) and the graph (08) present how do you see the future of education with the integration of digital tools? According to the results, there are fourteen (14) teachers (35.00%) have chosen “A more engaging and interactive learning experience for students”, seventeen (17) teachers (42.50%) have chosen “A more efficient and effective teaching and learning process”. While six (06) teachers (15.00%) have chosen “A more inclusive and equitable education system”, and three (03) teachers (07.50%) have chosen “Other (please specify)”. This means that the most of the teachers think that the integration of digital tools is more efficient and effective to teaching and learning process in the future of education.

Question 06:

How do you think digitalization can improve the quality of education?

Table 9: the quality of education with digitalization.

Question 06	Frequency	Percentage (%)
Enhance student engagement and motivation	11	26.20 %
Personalize learning	08	19.00 %
Increase access to learning materials and resources	21	50.00 %
it does not improve the quality of education that much	02	04.80 %
Total	42	100 %



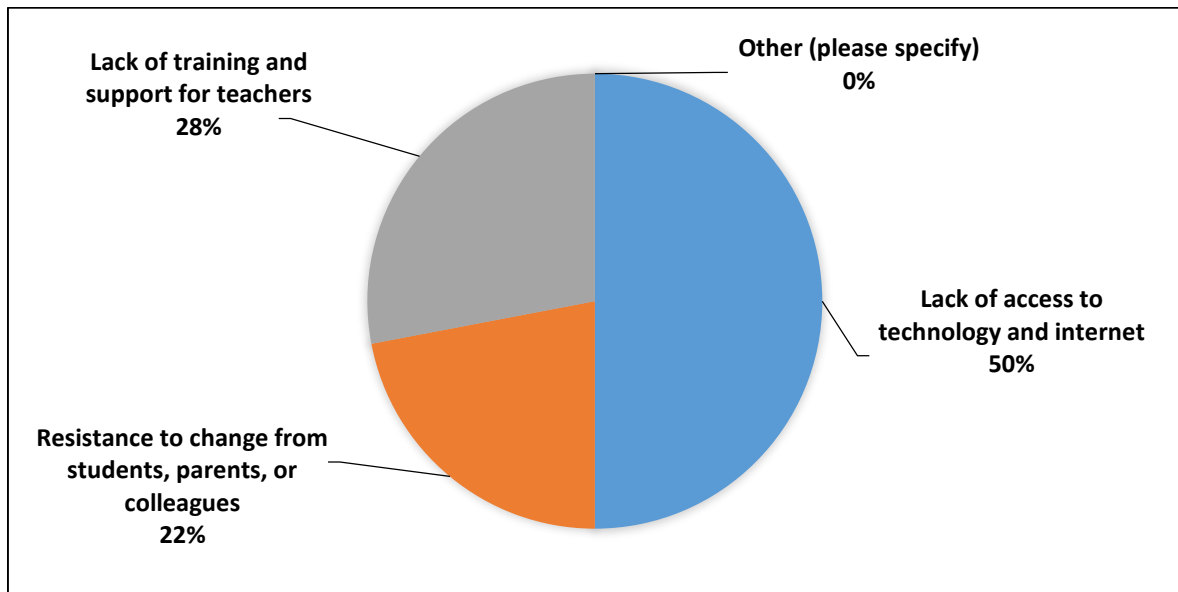
the table (09) and the graph (09) shows How do you think digitalization can improve the quality of education? According to the results, there are eleven (11) teachers (26.20%) have chosen “Enhance student engagement and motivation”, eight (08) teachers (19.00%) have chosen “Personalize learning”. While twenty-one (21) teachers of them (50.00%) have chosen “Increase access to learning materials and resources”, and two (02) teachers (04.80%) have chosen “it does not improve the quality of education that much”. This result confirms THAT the majority of the teachers think that digitalization increase access to learning materials and resources.

Question 07:

What are the challenges you foresee in implementing digitalization in education?

Table 10: the challenges teachers foresee in implementing digitalization in education

Question 07	Frequency	Percentage (%)
Lack of access to technology and internet	25	50.00 %
Resistance to change from students, parents, or colleagues	11	22.00 %
Lack of training and support for teachers	14	28.00 %
Other (please specify)	00	00.00 %
Total	50	100 %



the table (10) and the graph (10) shows what are the challenges you foresee in implementing digitalization in education? According to the results, there are twenty-five (25) teachers (50.00%) have chosen “Lack of access to technology and internet”, eleven (11) teachers (22.00%) have chosen “Resistance to change from students, parents, or colleagues”. While fourteen (14) teachers (28.00%) have chosen “Lack of training and support for teachers” and no one have chosen “Other (please specify)”. That is, the majority of the teachers say that the main challenge they foresee in implementing digitalization in education is lack of access to technology and internet.

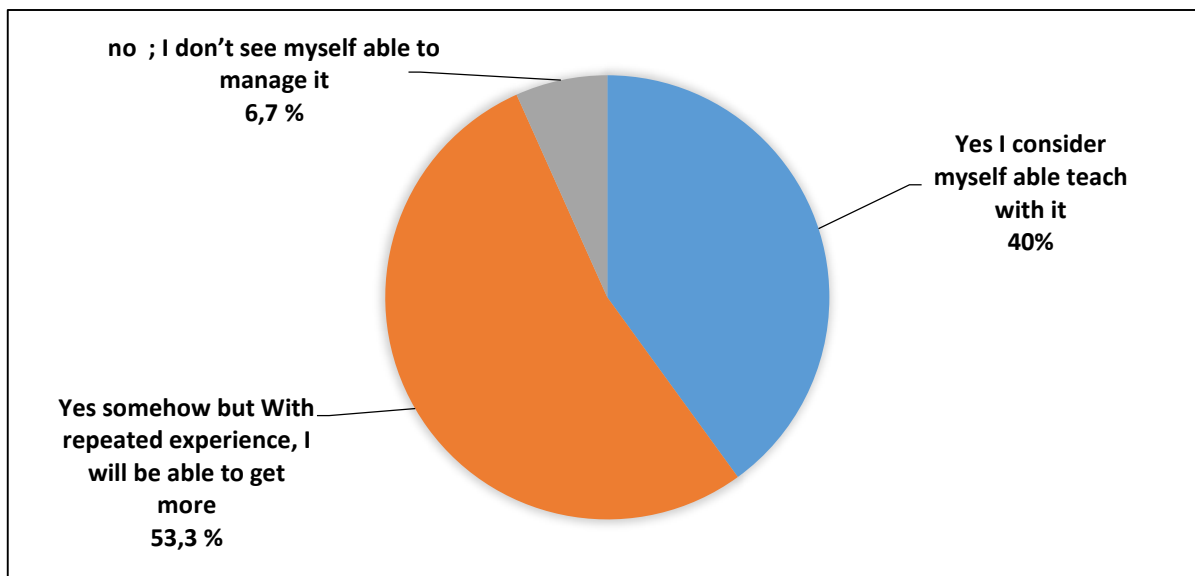
Question 08:

Do you see yourself able to start teaching with digitalization?

Table 11: the ability to start teaching with digitalization

Question 08	Frequency	Percentage (%)
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Yes I consider myself able teach with it	12	40.00 %
Yes somehow but with repeated experience, I will be able to get more	16	53.30 %
no ; I don't see myself able to manage it	02	06.70 %
Total	30	100 %



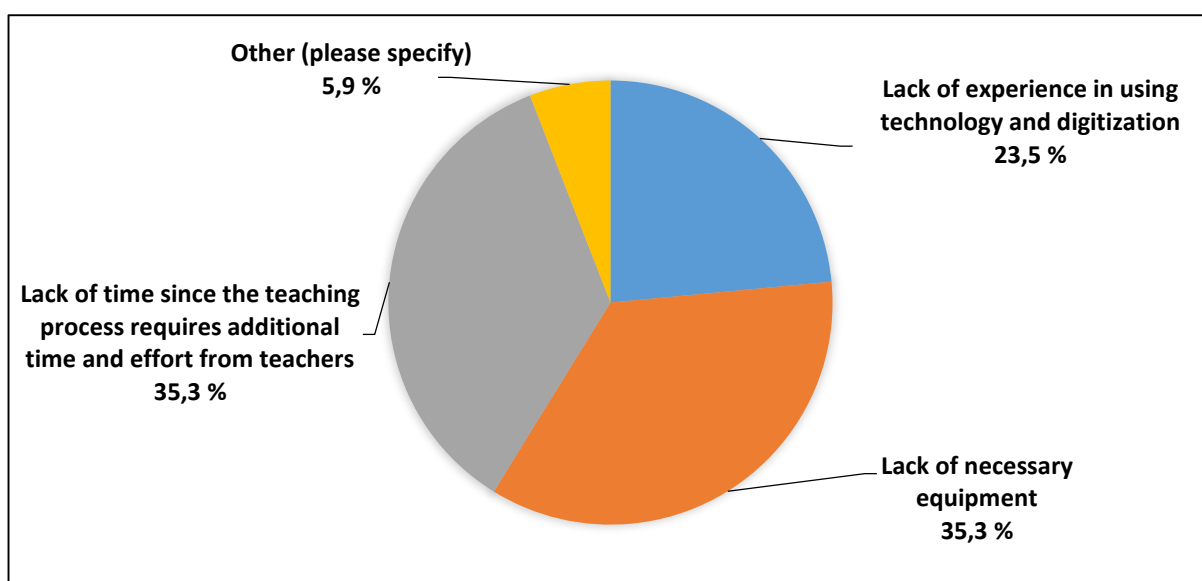
As shown in the table (11) and the graph (11) Do you see yourself able to start teaching with digitalization? According to the results, there are twelve (12) teachers (40.00%) have chosen “Yes I consider myself able teach with it”, sixteen (16) teachers (53.30%) have chosen “Yes somehow but with repeated experience, I will be able to get more”. While two (02) of them (06.70%) have chosen “no; I don’t see myself able to manage it”. From these results, the majority of the teachers see themselves somehow able to start teaching with digitalization; and with repeated experience, they will be able to get more”

Question 09:

If no, what are the challenges you face in applying digitalization in the teaching process?

Table 12: the challenges in applying digitalization in the teaching process

Question 09	Frequency	Percentage (%)
Lack of experience in using technology and digitalization	04	23.50 %
Lack of necessary equipment	06	35.30 %
Lack of time since the teaching process requires additional time and effort from teachers	06	35.30 %
Other (please specify)	01	05.90 %
Total	17	100 %



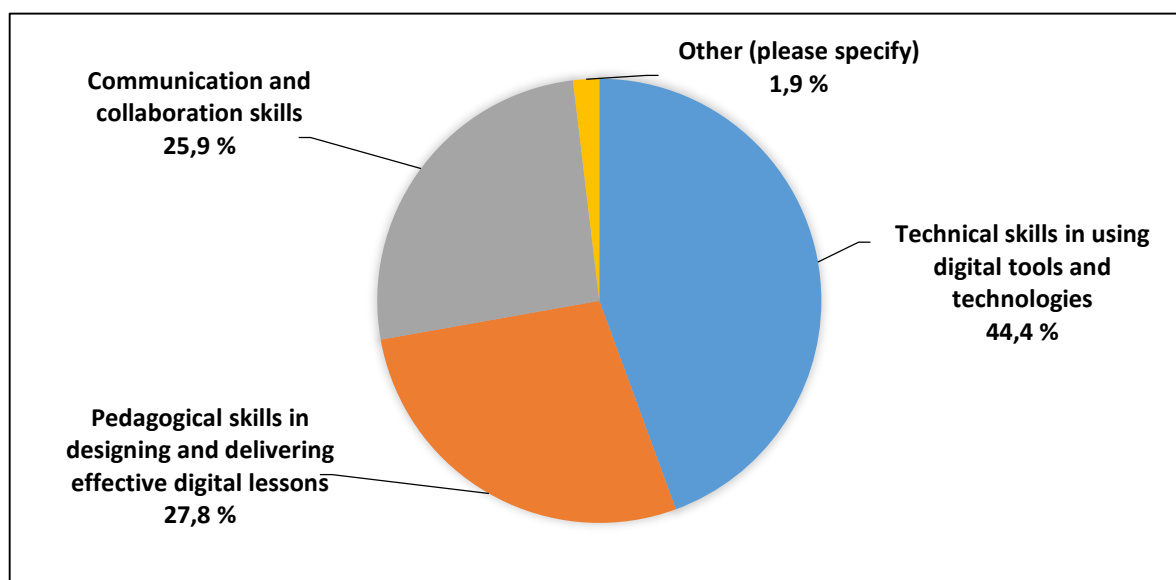
As it is displaying in the table (12) and the graph (12) if no, what are the challenges you face in applying digitalization in the teaching process? According to the results, there are four (04) teachers (23.50%) have chosen “Lack of experience in using technology and digitization”, six (06) teachers (35.30%) have chosen “Lack of necessary equipment” and “Lack of time since the teaching process requires additional time and effort from teachers”. While one (01) teacher (05.90%) have chosen “Other (please specify)”. This finding proves that most OF teachers, who are not able to start teaching with digitalization, say that the main challenges they face in applying digitalization in the teaching process are “Lack of necessary equipment” and “Lack of time since the teaching process requires additional time and effort from teachers”

Question 10:

If yes, in your opinion, what are the essential skills and competencies that teachers need to possess to successfully implement digitalization in education?

Table 12: the essential skills and competencies that teachers need

Question 10	Frequency	Percentage (%)
Technical skills in using digital tools and technologies	24	44.40 %
Pedagogical skills in designing and delivering effective digital lessons	15	27.80 %
Communication and collaboration skills	14	25.90 %
Other (please specify)	01	01.90 %
Total	54	100 %



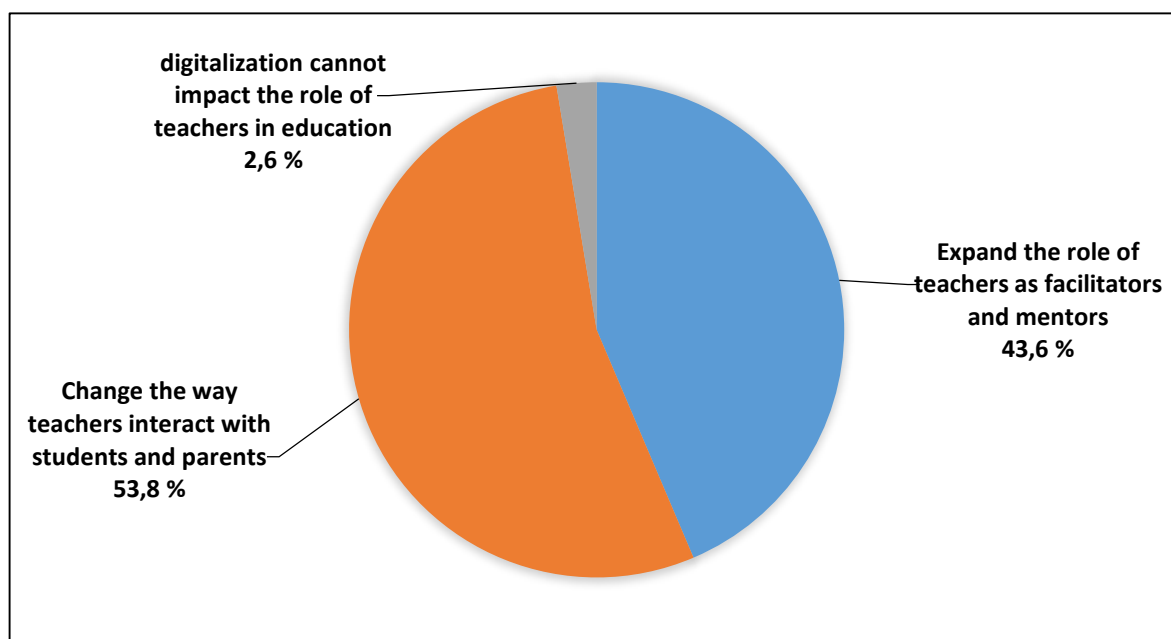
shows if yes, in your opinion, what are the essential skills and competencies that teachers need to possess to successfully implement digitalization in education? According to the results, there are twenty-four (24) responses of teachers (44.40%) are “Technical skills in using digital tools and technologies”, fifteen (15) responses of teachers (27.80%) are “Pedagogical skills in designing and delivering effective digital lessons”. While fourteen (14) responses of teachers (25.90%) are “Communication and collaboration skills”, and one (01) response (01.90%) is “Other (please specify)”. Therefore, the majority of the responses of teachers, who are able to start teaching with digitalization, think that the essential skills and competencies teachers need to possess to successfully implement digitalization in education are technical skills in using digital tools and technologies.

Question 11:

How do you think digitalization can affect the role of teachers in education?

Table 13 The impact of digitalization on teachers' role.

Question 11	Frequency	Percentage (%)
Expand the role of teachers as facilitators and mentors	17	43.60 %
Change the way teachers interact with students and parents	21	53.80 %
digitalization cannot impact the role of teachers in education	01	02.60 %
Total	39	100 %



the table (14) and the graph (14) shows How do you think digitalization can affect the role of teachers in education? According to the results, there are seventeen (17) teachers (43.60%) have chosen “Expand the role of teachers as facilitators and mentors”, twenty-one (21) teachers (53.80%) have chosen “Change the way teachers interact with students and parents”. While one (01) teacher (02.60%) has chosen “digitalization cannot impact the role of teachers in education”. This finding proves that most of the teachers think that digitalization can affect the role of teachers in education by changing the way teachers interact with students and parents.

For the last question was an open question where the teachers can answer as they think; most of them did not answer it some of them they ignored it and some others they were, as it were, lazy to spell and write. Wherever there are teachers who answer and write and others answer orally and I kept what they were saying.

The question was: Is there anything else you would like to add about the integration of digitalization in education and your opinion if our university can transform the classical method by digital education specially that the Minister, Mr. Badari, is one of supporters and he start apply it?

The question was answered by 14 out of 30; This are the answers and suggestions and comments of the teachers from different faculties:

There are teachers who commented that they support integrating digitalization into education as much as it enhances the role of the teacher.

Also they are with integrating digitalization with traditional education, they also said "yes" to digitalization as an added value, but while preserving the traditional method, which is a necessary requirement, as they say, "Love the new and Don't overdo the old."

3.Discussion of the Findings:

The aim of the first section of the Questionnaire is to determine general information about the informants .Therefore, the collected data provides us information about their gender , whether they are female or male and their teaching Experience at university and the faculty; as well as the answers of this section denote that the majority of respondents are male, there are 10 females and 20 male in addition they are from different generations and with a variety of experiences in teaching English at university and from all the faculties.

The second section of the questionnaire which is about digital tools, show that: the majority of the teachers use digital tools regularly in their teaching. and most of them are interested in using online learning plat forms and (Moodle D-space) as a preferred digital tools since they already use it with them students moreover less than the majority of teachers are using the both methods classical and digital and are interested in digital textbooks and e-books.

For the section three about digital education and classical education large number of the teachers think that digitalization cannot replace classical method but they should be used in conjunction. they said that they are complete each other, these findings supported by the study of” (N U Yarychev and A U Mentsiev 2020) which revealed that “We can say that due to the digitalized education the value of traditional education is not ended. in addition, for the portability of teachers to change the classic teaching method to digital teaching more than half of teachers answer that they prefer to change it but in a part only. for the last section about digitalization and the role of teacher; majority of teachers see the future of education with the

integration of digital tools A more engaging and interactive learning experience for students and a more efficient and effective teaching and learning process

Moreover, teachers see that digitalization can improve the quality of education by increase the access to learning materials and resources.

For challenges they foresee in implementing digitalization in education major part of teachers said that is lack of access to technology and internet is the biggest challenge for them.

These results supported by Kim & Park, (2018) related to obstacles they assume that These obstacles include infrastructure, cost, access to information, training, and resources”

Furthermore; for the ability to start teaching with digitalization; they answered that they can and with repeated experience, they will be able to get more, and they think that the essential skills and competencies teachers need to possess to successfully implement digitalization in education are technical skills in using digital tools and technologies.

For the teachers, who are not able to start teaching with digitalization, say that the main challenges they face in applying digitalization in the teaching process are “Lack of necessary equipment” and “Lack of time since the teaching process requires additional time and effort from teachers”. These findings support the study of (Y. Priatna Sari et al 2023) “One of the serious obstacles in digital learning is the lack of educational facilities equipped with digital devices”.

One of the teacher’s comment: I believe that digitalization in education should complement rather than replace traditional teaching, by addressing the limitations of traditional learning through digital learning (because digital learning also has its avoidable disadvantages through traditional learning). because traditional teaching alone is not enough and digital teaching alone is not enough so it is better to Integration and merging of traditional learning and digital learning is essential to enhance student understanding.

Our university needs to increase Internet access for educational institutions and provide incentives for teachers.

A teacher suggested teaching digitalization as a subject at all levels and in all disciplines. This is to increase students' awareness of its importance and effective impact on their studies, which contributes to enabling teachers to use it

While some comment that digitalization is currently not a priority for students or teachers due to various settings, including technological equipment and home study conditions. A minority of teachers believe that our university is still far from using digitalization in education due to the lack of electronic equipment, the Internet, and the lack of environments.

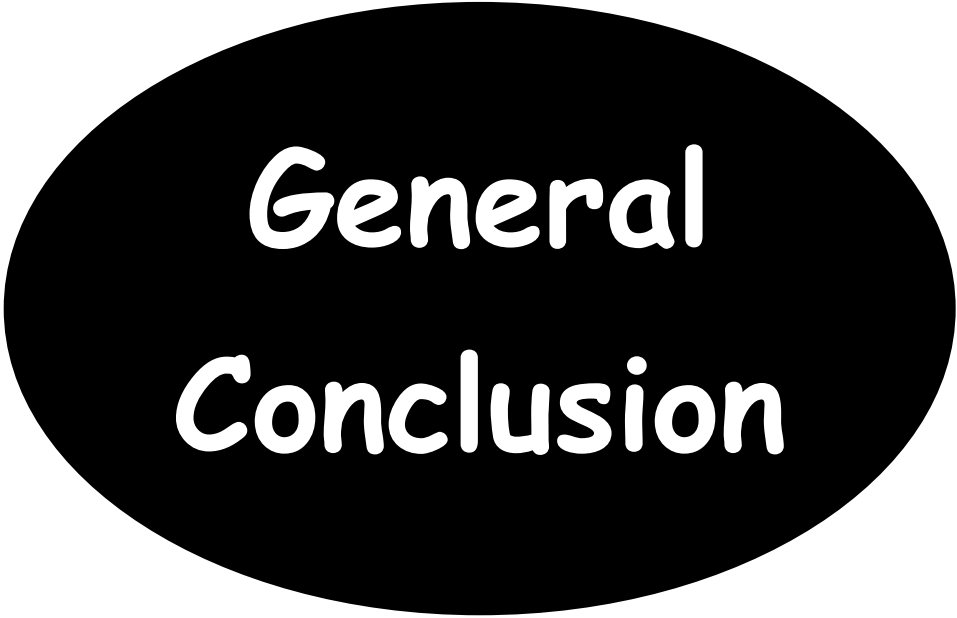
Chapter tow: RESEARCH METHODOLOGY AND DISCUSSION OF RESULTS

Teacher's opinions differ, but most of the teachers were with digitalization despite the different age, gender, and faculty members. And the majority of the answers were similar, given that our current age is the age of technology and digitalization is one of the most important areas that are currently trending since the emergence of the Covid-19.

4. Conclusion:

In this chapter we focused on the description and the analysis of the teachers' questionnaire in order to confirm our hypotheses.

The different answers of our participants gave in the chapter provided an overview about the status of digitalization for teachers and their opinions about transforming traditional teaching to digital teaching and the challenges they face in applying digitalization and the benefit of it also and how it have a good impact on his role to be a facilitator and coordinators besides majority of teachers are have a good intention to continue with digital education in conjunction with traditional education .



**General
Conclusion**

5.General Conclusion:

The present study is based on “digitalization in education and the evolving role of the teacher at M'sila University". This dissertation was targeted toward providing a vivid picture about the teaching with digitalization and aimed at detecting the way of thinking that the teachers have about digital education. Therefore; to answer our questions I used the descriptive method and in order to confirm our hypotheses; I submitted questionnaires to teachers of all the faculties at M'sila University.

In order to investigate the hypotheses of the research, we divided the study into two chapters. In the first chapter I indicated definition of digitalization and digitalization in education from different perspectives, its types and why to digitalize education.

and Furthermore I explained impacts of digitalization in education. Finally; the main advantages and disadvantages of digitalization in education was revealed.

However, in the second chapter, is the practical one; in this chapter I analyze the data gathering from the questionnaires that are devoted to teachers of all faculties; the tools were discussed and analyzed and the results obtained were interrupted in order to confirm our hypotheses.

Based on the obtained results from the questionnaires the hypotheses were improved. Concerning the first one, I hypothesized that higher education after covid-19 has become more dependent on technology and digitalization.

The results confirmed that higher education are using digitalization and they are dependent on it.

The second hypothesis, university teachers see digitalization in education as a further development of teaching and learning.

The results illustrate that the majority of teachers see that digitalization can improve the quality of education by increase the access to learning materials and resources use different strategies and techniques

The third hypothesis, teachers think that their role will reduce when migrating digitalization in education. The results illustrate that their role will change only for the interaction between them and students.

And the last hypothesis, Algerian university teachers are not ready to teach with digitalization. The result shows that the majority of teachers are ready to teach with digitalization but in a part.

Thus, the present study attempted to give a picture about digitalization in higher education and the intentions of the teachers to transform to digital education, then to suggest the solution to solve the problems that the teacher declared.

5.1 Limitations:

The research is not meant to be free from criticism and imperfection like all studies, and this study also had some limitations that need to be taken into account when interpreting the results. Firstly, the most important limitation was the lack of time, especially after some delays in choosing the subject and the supervisor, as I did not find a great deal of freedom while communicating with the teachers due to the unfavorable conditions since after Ramadan most of the teachers finished their lessons and started the period of assignments, therefore, it is suggested that the time Better availability and conditions would have helped us assess the situation in depth and reach more productive conclusions as well as make the outcome more valid and reliable.

Second, another major limitation relates to the small sample of the study. This may restrict the generalization of the validation of the results, as this study was limited to (30 teachers) only in all departments of the University of M'sila. This problem is likely to have a negative impact on the statistical measurements compared to the number of teachers in the university,

Moreover, I encountered difficulty in obtaining a response from the teachers in answering the questionnaire, most of them were refusing under the pretext of lack of time, and the majority of the teachers answered closed questions and left the last open question without an answer.

5.2 Pedagogical implication:

After analyzing the results of teacher's questionnaire I would like to provide some suggestions to teachers. These suggestions and recommendations are summarized as follows:

- First of all, Teachers and students should be aware of the importance of digitalization nowadays.so they can teach digitalization as a module in university in order to learn how to use it and increasing its important position in this time.
- They must develop them capacities in using technology and digital tools and those who know how to use it they can do courses to teach the others who do not especially the older generations.
- Teachers must aware that them role in the digital education will not decrease but is will become more important since students need a facilitator and coordinator to observe them and confirmed that they use digitalization to learn not to enjoy.
- Since digitalization is a good add to education but our university is not ready to teach with due to various settings, including technological equipment, teachers can submit a request

to the Ministry to provide the necessary equipment to achieve advanced education that is beneficial to society, and they will find an ability because the Minister is the one who supported and implemented digitization in education.

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Appendix 01

Appendix 01: teacher's Questionnaire

“digitalization in education and the evolving role of the teacher”

Dear participants, we are currently conducting our master dissertation research to examine the digitalization in education and the evolving role of the teacher. Thus, you are kindly invited to answer this questionnaire, which consists of 12 questions and requires approximately 5-10 minutes. Your contribution is very important and greatly appreciated. Finally, we assure you that we will keep the information confidential and only use it for academic purposes. Thank you in advance for your cooperation.

Put a tick (✓) mark in the right answer.

Section one: General Information's:

Gender:

Department of education:

How many years you have been teaching:

Section two: Digital tools:

1 _ Have you ever used digital tools in your teaching before or you just use the classical method?

- a. Yes, I use digital tools regularly.
- b. Yes, but only occasionally.
- C. no, Only the classical way.
- d. I use Both

2_ If yes: What types of digital tools or resources are you use or you are interested in?

- a. Educational mobile apps (eg. Duolingo).
- b. Digital textbooks or e-books.
- c. Video conferencing tools (e.g. Zoom).
- d. online learning plat forms (Moodle D-space).

Section three: classical teaching and digital teaching:

3_ Do you think that digitalization can replace classical teaching methods completely?

- a. Yes, it can.
- b. No, it cannot replace it.
- c. they should be used in conjunction with each other.

4 Do you want to change the classic teaching method to digital teaching?

- a. Yes, of course.
- b. Yes, but in part.
- c. no I succeed in teaching in the traditional way only.

5_How do you see the future of education with the integration of digitalization?

- a. A more engaging and interactive learning experience for students.
- b. A more efficient and effective teaching and learning process.
- c. A more inclusive and equitable education system.
- d. Other; (please specify)

Section four: the role of the teacher in the digital education:

6_How do you think digitalization can improve the quality of education?

- a. Enhance student engagement and motivation.
- b. Personalize learning.
- c. Increase access to learning materials and resources.
- d. it does not improve the quality of education that much.

7_ What are the challenges you foresee in implementing digitalization in education?

- a. Lack of access to technology and internet.
- b. Resistance to change from students, parents, or colleagues.
- c. Lack of training and support for teachers.
- e. Other (please specify):

8_Do you see yourself able to start teaching with digitalization?

- a. Yes; I consider myself able teach with it.
- b. Yes; somehow but with repeated experience, I will be able to get more.
- c. No; I don't see myself able to manage it.

9_ If No; What are the challenges you face in applying digitalization in the teaching process?

- a. Lack of experience in using technology and digitalization.
- b. Lack of necessary equipment.
- c. Lack of time since the teaching process requires additional time and effort from teachers.
- Other (please specify)

10_ if Yes; In your opinion, what are the essential skills and competencies that teachers need to possess to successfully implement digitalization in education?

- a. Technical skills in using digital tools and technologies.
- b. Pedagogical skills in designing and delivering effective digital lessons.
- c. Communication and collaboration skills.
- d. Other (please specify)

.....
11_How do you think digitalization can impact the role of teachers in education?

- a. Expand the role of teachers as facilitators and mentors.
- b. Change the way teachers interact with students and parents.
- c. digitalization cannot impact the role of teachers in education.

Section Five: teacher's overview about digitalization in education:

12 _Is there anything else you would like to add about the integration of digitalization in education and your opinion if our university can transform the classical method by digital education specially that the Minister, Mr. Badari, is one of supporters and he start apply it?

Appendix

02

استبيانات الأساتذة:

"الرقمنة في التعليم والدور المتطور للمعلم"

أعزائي المشاركون، أجري حاليًا بحث أطروحة الماجستير الخاصة بي لفحص الرقمنة في التعليم والدور المتطور للمعلم. وبالتالي، أنت مدعو للإجابة على هذا الاستبيان، والذي يتكون من 12 سؤالًا ويتطلب ما يقرب من 5-10 دقائق. مساهمتك مهمة جدًا ومقدرة للغاية. أخيرًا، نؤكد لك أننا سنحافظ على سرية المعلومات ونستخدمها فقط للأغراض العلمية. شكرًا لكم مقدمًا على تعاونك.

ضع علامة (✓) في الإجابة الصحيحة.

Section one:

الجزء الاول

general information's:

معلومات عامة:

Gender:

الجنس:

Department of education:

الكلية

How many years you have been teaching:

كم عندك سنة من التدريس :

الجزء الثاني: الأدوات الرقمية:

- 1- هل سبق لك استخدام الأدوات الرقمية في تدريسك من قبل أم أنك تستخدم الطريقة الكلاسيكية فقط؟
 - أ- نعم، استعمل الادوات الرقمية بانتظام. ()
 - ب- نعم، لكن مرات فقط. ()
 - ج- لا، استعمل الطريقة الكلاسيكية فقط. ()
 - د- استعمل الطريقتين. ()
- 2- إذا كان جوابك نعم، ما هو نوع الادوات الرقمية التي انت مهتم بها وتستخدمها؟
 - أ- تطبيقات تعليمية في الهاتف (مثل تطبيق دولينقو) ()
 - ب- الكتب الرقمية أو الكتب الإلكترونية. ()
 - ج- المواقع الخاصة باجتماعات الفيديو. (مثل زوم) ()
 - د- منصات التعلم عبر الإنترنت (مثل مودل) ()

الجزء الثالث: الدراسة الرقمية والدراسة الكلاسيكية.

- 3- هل تعتقد ان الرقمنة تستطيع ان تحل محل طريقة التدريس الكلاسيكية تماما؟
 - أ- نعم، تستطيع. ()
 - ب- لا، لا تستطيع ان تحل محلها. ()
 - ج. يجب ان يستخدموا مع بعضهم البعض. ()
 - د- غير ذلك، حدد من فضلك:

4- هل تريد تغيير طريقة التدريس التقليدية إلى التدريس الرقمي؟

أ- نعم بالطبع. ()

- ب- نعم، ولكن جزئياً. ()
 ج- لا انا أنجح في التدريس بالطريقة التقليدية فقط. ()
 5- بينما انتشرت الرقمنة والادوات الرقمية كيف ترى الدراسة مستقبلاً؟
 أ- تجربة تعليمية أكثر جاذبية وتفاعلية للطلاب. ()
 ب- عملية تعليم وتعلم أكثر كفاءة وفعالية. ()
 ج- نظام تعليمي أكثر شمولاً وإنصافاً. ()
 د- غير ذلك (حدد من فضلك):

الجزء الرابع: الرقمنة في التعليم ودور المعلم.

- 6- في أي جانب تعتقد أن الرقمنة يمكن أن تحسن جودة التعليم؟
 أ- تحسين مشاركة الطلاب وتحفيزهم. ()
 ب- إضافة الطابع الشخصي على التعلم. ()
 ج- زيادة الوصول إلى المواد والموارد التعليمية. ()
 د- لا تحسن جودة التعليم كثيراً. ()
 7- ما هي الصعوبات التي تتوقع مواجهتها في تطبيق الرقمنة في التعليم؟
 أ- عدم الوصول الكافي إلى التكنولوجيا والإنترنت. ()
 ب- رفض التغيير من الطلاب أو أولياء الأمور أو الزملاء. ()
 ج- نقص التدريب والدعم للأساتذة. ()
 د- غير ذلك (حدد من فضلك)

- 8- هل تعتقد بأنك مستعد للتدريس بالرقمنة؟
 أ- نعم، أنا أعتبر نفسي قادراً على التدريس بها. ()
 ب- نعم بطريقة ما ولكن مع التجربة المتكررة، سأتمكن من الاستعداد أكثر. ()
 ج- لا، لا أرى نفسي مستعد لاستعمالها أو التحكم بها. ()
 9- إذا كان جوابك لا، ماهي الصعوبات التي تواجهك عند تطبيقك للرقمنة في تدريسك؟
 أ- قلة الخبرة في استعمال التكنولوجيا والرقمنة. ()
 ب- الافتقار إلى المعدات اللازمة في التكنولوجيا. ()
 د- ضيق الوقت، بما انه التدريس يتطلب وقت ومجهود اضافي من الاساتذة. ()
 ج- غير ذلك، (حدد من فضلك):

- 10- إذا كان جوابك نعم؛ برأيك، ما هي المهارات والكفاءات الأساسية التي يحتاج الاساتذة لامتلاكها لتنفيذ الرقمنة في التعليم بنجاح؟
 أ- المهارات التقنية في استخدام الأدوات والتقنيات الرقمية. ()
 ب- المهارات التربوية في تصميم وتقديم دروس رقمية فعالة. ()
 ج- مهارات الاتصال والتعاون. ()
 د- غير ذلك، (حدد من فضلك)

- 11- حسب رأيك كيف يمكن للرقمنة أن تؤثر على دور المعلمين في التعليم؟
 أ- توسيع دور المعلمين كميسرين وموجهين. ()
 ب- تغيير طريقة تفاعل المعلمين مع الطلاب وأولياء الأمور. ()
 ج- لا يمكن للرقمنة أن تؤثر على دور المعلمين في التعليم. ()
 د- غير ذلك (حدد من فضلك):

.....
الجزء الخامس: الرأي العام للأساتذة حول الرقمنة في التعليم:

12- هل هناك أي شيء آخر تود إضافته حول دمج الرقمنة في التعليم وما هو رأيك حول إذا كان بإمكان جامعتنا تحويل الدراسة من الأسلوب الكلاسيكي الى التعليم الرقمي خاصة أن الوزير السيد بداري من المؤيدين لهاته الفكرة وقد بدأ بتطبيقها؟:

.....
.....

الملخص:

يمكن أن يلعب استخدام الرقمنة في التعليم والتعليم العالي دورًا مهمًا في تطوير النظام التعليمي بجميع جوانبه. حيث ان الهدف من هذه الدراسة هو اكتشاف دور الأساتذة في استخدام الرقمنة في التعليم في جامعة المسيلة بالجزائر والتحقق ما إذا كان لديهم نية لمتابعة التعليم الرقمي أو لا. الدراسة مقسمة إلى فصلين. يتكون الفصل الأول من قسمين. يعرض القسم الأول الرقمنة في التعليم. يسلط القسم الآخر الضوء على الرقمنة في التعليم العالي ودور الأستاذ. من ناحية أخرى، يحلل الفصل الثاني آراء الأساتذة حول الموضوع قيد البحث حيث انه تم إجراء الدراسة على أساتذة من مختلف كليات جامعة المسيلة. ولتحقيق أهداف البحث تم استخدام المنهج الكمي بعدما تم جمع البيانات من الاستبيان الموزع باليد. باختصار، تظهر النتائج المشتركة للدراسة أن الأساتذة لديهم مواقف إيجابية تجاه التعليم الرقمي. يمكن أيضًا استنتاج أن أساتذة جامعة المسيلة منفتحون ومستعدون للاعتماد على التعليم الرقمي. كما يتم عرض بعض التوصيات لتحسين استخدام التعليم الرقمي.

الكلمات المفتاحية: التعليم الرقمي، الرقمنة، المعلم، التعليم العالي، التعليم.