African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

The quality of higher education in the digital age and the challenge of employability

Auteur 1 : **Sabrine BOURRAY**

Sabrine BOURRAY
(Docteur en Economie et gestion, Université Mohammed V Rabat, Maroc)

Déclaration de divulgation : **L'auteur n'a pas connaissance de quelconque financement qui pourrait affecter l'objectivité de cette étude.**

Conflit d'intérêts : **L'auteur ne signale aucun conflit d'intérêts.**

Pour citer cet article : **BOURRAY .S (2023) « The quality of higher education in the digital age and the challenge of employability», African Scientific Journal « Volume 03, Numéro 18 » pp: 017 – 035.**

Date de soumission : Mai 2023

Date de publication : Juin 2023

DOI : 10.5281/zenodo.7941939

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

Summary:

Today, digitalization is a national priority for socio-economic development and competitiveness in most sectors, and the higher education sector is no exception. Morocco is part of a new dynamic aimed at improving the quality of higher education and modernizing its practices through, in particular, the establishment of devices, putting the learner at the center of educational action, while integrating ICT in the world of teaching and education, to improve performance, quality and productivity, and this to make it a lever for development.

This research work is a contribution to the evaluation of the impact of the integration of ICT in higher education on the quality of learning and teaching, for the benefit of university students. To carry out this task, we have opted for a combination of the qualitative and quantitative approach in order to understand the subject in its entirety, the collection of the data analyzed in this study is carried out using a questionnaire developed and completed online by university students who have used ICT in their learning activities. Our results show the craze for digital which could be justified, on the one hand, by the widespread use of ICT by students and teachers in their lives, on the other hand, the availability, simplicity and accessibility of applications on smartphones, and laptops facilitate and encourage the use of educational platforms as an alternative, in this respect the present results deserve to be deepened in order to guide the transition to digital at the Moroccan university and to register, therefore in the quality assurance process.

Keywords: digital transformation, teaching quality in higher education, employability.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

Introduction:

In Morocco, higher education is one of the pillars of the country's development, today we are faced with a need to produce skills and qualified profiles, a youth able to meet the needs of the market and take over at the various sectors of the economy. Company employees, civil servants of the State, the executives and the technicians all come from higher education and assume crucial responsibilities, as well as the researchers and intellectuals who are essential for development of a knowledge society.

In a context of globalization putting national economies into competition, the digital transition of economies is today an urgent need to strengthen the competitiveness of nations, the creation of wealth and decent jobs, the reduction of inequalities and insertion into global flows of knowledge exchange and supply chains global values. Higher education is then directly at grips with the strong requirements of international competitiveness, hence the need to train high-level profiles able to meet the challenges for a developing country such as Morocco.

Like "Digital Morocco" aiming to transform Morocco into a digital hub of Africa, and register it in a digital economy, the kingdom is called today to make digitization of higher education, a national priority by providing suitable environment for the development and acceleration of the digital transition at the academic environment, by integrating new technologies to improve learning and also develop pedagogical programs in such a way as to respond more effectively to the new needs induced by the digital revolution.

In this sense, the Ministry of National Education, Vocational Training, Higher Education and Scientific Research is part of this dynamic digitally oriented in line with national guidelines, aimed at improving the quality of higher education through the establishment of institutional measures to generalize the use of digital technology in teaching and learning, and adapt the pedagogical approaches to socio-cultural development and labor markets, in the ultimate goal of allowing the Moroccan university to give birth to a human capital which is efficient competitive and able to meet the challenges of the country's development.

In this perspective, we conducted a field study with university students, to understand the impact of the use of educational platforms on the quality of learning and teaching and to highlight the merits of using ICT in the educational context.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

Thus we formulate the following problematic questions:

- ✓ To what extent could the use of ICT be a source of pedagogical innovation in higher education?
- ✓ Does the use of distance education allow a better quality of learning and teaching, as well as an ease of access to knowledge?

To provide some answers to these questions, this study is based on a methodology combining qualitative and quantitative approaches. Within this framework. We conducted a questionnaire distributed to graduate students

The Questionnaire administered allowed us to collect information on two axes: the impact of the use of ICT in training and the evaluation of the use of educational platforms on learning and teaching.

As part of this work, we will present, in a first plan, the general context in which this project took shape and direction, the assessment of the strategies of the digitization of higher education undertaken in Morocco and the challenge of employability in the digital age in Morocco. In a second plan, we will outline the methodological framework adopted to conduct this research according to current scientific standards, the field survey and, finally, the results of the data analysis.

1. THE DIGITALIZATION OF HIGHER EDUCATION IN MOROCCO.

Digital transformation is counts now as a condition for the development and competitiveness in the majority of sectors, indeed, the higher education sector does not escape this digital transition either, which can be promising for the development of human capital which is essential for achieving an economic growth which is sustained and sustainable.

For decades, the Moroccan higher education sector has been the subject of many reforms and upgrade programs to face many challenges in particular, the massification which affects the fields with open access and the arrival of a new generation of "digital natives" (Generation Z) who master new technological tools, and tend to use them outside the University campus.

This shift to digital has also brought about positive changes in educational content and has allowed the emergence of various ways of teaching guaranteeing a better quality of training. Now, we are assisting the use of information and communication technologies as a tool of

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

mediation of multiple pedagogical models and mediatization of several types of courses and trainings.

Therefore, the higher education sector should focus these efforts and reflections on the quality of training in higher education, and above all adapting it to the current context which is constantly changing and to offer this generation, which has the advantage of good mastery of new technological tools, the favorable and optimal environment to develop required skills by the labor market.

1.1. Review of the main strategies implemented to promote the digital transformation of higher education in Morocco.

Digitalization was always a strategic objective of the Moroccan university and its implementation was in a progressive way. Indeed, several reforms have followed one another and consider digital technology as a source of value creation and innovation, which is promoting improvement of teaching systems and practices. The introduction of new technology in higher education is seen as a guarantee of educational innovation and academic success1.

Over the past decade, Morocco has engaged several reforms and measures aimed at digital transformation of universities, the main contributions of which are:

Table 1: Reforms and measures aimed at digital transformation of universities

Moroccan higher education reforms	**Targeted initiatives for the implementation of digital**
The national education and training charter (1999) Integration of technology into teaching methods.	**The MARWAN network** (**2002** / computer network) Establishment of information and communication infrastructures.
Emergency program (2009-2013) The importance of using ICT in teaching practices.	**Moroccan Virtual Campus Project (2004)** Promote distance education in MOROCCO.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

The e-Morocco strategy (2010) Develop the Internet and other communication technologies.	**The GENIE Program (2005)** Generalization of ICT in the Moroccan education system.
Digital Morocco (2013) Computerization of organizations and development of broadband internet.	**The E-Sup program (2006)** Integration and use of ICT in teaching according to international standards.
Strategic Vision (2015-2030) Integrate information and communication technologies through the development of digital infrastructures in Moroccan universities.	**Nafida1 / Nafida2 program (2008) / (2021)** Make Information and Communication Technologies (ICT) accessible.
Law 51-17 (2019) Digital technology is one of the objectives of the framework law relating to the education, teaching and training system.	**The INJAZ program (2013)** Provision of interface services to students to access the use of ICT.
Morocco Digital (2020) Digital transformations and governance of digital skills.	**LAWHATI Program (2015)** Digital transformations and governance of digital skills. (Generalization of ICT in the University Moroccan). **apogée project** Effective governance of universities and the management of administrative and pedagogical registrations. **Connected Campus (2021)** Facilitate connection to distance learning resources.

Source: Collected from the official ministry of education website

1.2. The main digital platforms for distance education

Distance learning platforms are an easy way to access educational resources, and course management for teachers, it provides a learning environment despite lacking some interactivity

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

features, they allow teachers and learners to collaborate and stay connected online in a real-time.

Table 2: Distance-learning platforms

Distance learning platform	**Description**
Google classroom	It is a free learning platform that allows the creation and distribution of courses and exercises digitally.
Google meet	This is Google's video conferencing service, it allows professionals to organize video conferences easily. Simply forward an automatically generated link. Participants just need to have a Google Account
Zoom	Zoom is a professional video conferencing tool. Zoom allows you to create online meetings, organize video webinars, create conference rooms and chat in writing using instant messaging.[1]
Skype	Skype is a software that allows you to chat across the world through video calls.
Webinar	The webinar (or webinar) is a collective meeting or online conference.[2]
Moodle	is an online learning platform Moodle allows the organization of courses in the form of courses which gives it the potential to set up complete teaching systems.[3]
Youtube	Several teachers chose to interact with their students via social networks or YouTube channels by distributing digital educational content on these platforms.

Source: Collected and made by the author

[1]Wikipedia definition.
[2] Wikipedia definition.
[3]Wikipedia definition.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

2. EMPLOYABILITY AND PROFESSIONAL INTEGRATION OF STUDENTS IN THE DIGITAL AGE.

The digital revolution represents, for most sectors, an opportunity to rethink their models and reinvent themselves. For higher education, this revolution represents a tool of responding to the multitude of challenges: increasing number of students, university dropouts, the ranking of Moroccan educational institutions in international rankings, the inadequacy of training to the needs of the labor market... As such, it is essential for all actors in the field of education to develop a strong and ambitious strategy for improving the quality of education and the empowerment of learning for better professional integration of graduates.

2.1. Sustainable employability: Guarantee of the quality of higher education.

According to the UNESCO[4] global declaration on higher education for the 21st century: "Teaching has a triple function, first education in its broadest sense then training and finally research" the essential mission of higher education is to contribute to sustainable development and the improvement of whole society. Among the many challenges of higher education raised by UNESCO for this century is the employability of graduates. The axis that makes up the vision for higher education is dedicated to strengthening cooperation with the world of employment as well as the analysis and anticipation of the needs of society. Several suggestions have been issued with a view to strengthening connection with the world of employment, among other things:

- ✓ The exchange of personnel between the world of work and the different spreads of Higher Education.

- ✓ Revision of programs to better adapt them to widespread practices in the labor market. In order to improve the employability of the laureates; it is also necessary of the aforementioned elements, to develop the spirit of entrepreneurship among students, who will be led to be "job creators" and not just employees.

In this respect, the training offer must meet the expectations of companies and be in correlation with the labor market. Indeed, in order to differentiate themselves, universities must not only

[4] UNESDOC, digital library, digital document internal quality assurance and employability.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

transmit the most useful knowledge but also forge strong and reactive links with companies, to allow their students to carry out internships and thus find their first job as soon as possible. A reconciliation with the companies must be made in order to understand well their needs, to identify some possible national and global partnerships. Therefore, institutions have to offer students the optimal framework for the development of skills sought by employers, but also to adapt them to a constantly changing world.

2.2. The professional world: a new knowledge required.

Even more important than the awarding degrees, ensuring that the student achieves the highest possible level of education in order to acquire the skills that the profession of his choice requires, must be at the heart of higher education. In addition to ensuring that the student's expectations are met as well as possible, the establishment must anticipate the development of the young person in the long term, from the school bench to his entry into the professional world which, turned upside down by the digital revolution, requires new skills. It is in this way that the university will be able to build a positive brand image, to gain reputation, to improve its achievements.

2.3. Generation z: digital natives who prefer distance learning.

With their smartphone in their pocket, Generation Z students are very good at digital codes and expect the university to adopt, like them, the digital transformation. For this, the university is called upon to offer its students an available and downloadable online courses to the device of their choice anytime and anywhere, open access and free digitized content, digital libraries, wide choice of MOOC (Massive Open Online Courses for Massive Open Online Courses). All of this to get rid from limiting constraints and focus on the reason for their presence in the university: learning and training.

3. EMPIRICAL ANALYSIS OF THE QUALITY OF DISTANCE EDUCATION.

This research work is a contribution to the evaluation of the impact of digital transformation on the quality of higher education, we have opted for a methodology combining qualitative and quantitative approaches in order to circumvent the subject in its entirety.

The collection of data analyzed in this study is carried out using a questionnaire.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

generated and completed online on 01/20/2023 by 232 university students.

Our questionnaire is made up of two parts, the first part allows to question on the use of ICT in training and the second part proposes to highlight, from

students' point of view, the impact of the digitization of educational content on the quality of higher education. With this in mind, the questionnaire was distributed by e-mail to 232 higher education students who took part in the experimentation of digital transformation in higher education in Morocco.

3.1. Issues and hypothesis

This study deals with the issue of the integration of ICT and its uses as well as its contribution on the quality of higher education. In this sense, our problem can be worded as follows:

- ✓ To what extent could the use of ICT be a source of pedagogical innovation in higher education?
- ✓ Does the use of distance education allow a better quality of learning and teaching, as well as an ease of access to knowledge?

This leads us to verify the validity of the following hypothesis:

The exploitation of the potential offered by ICTs allows the improvement of the quality of higher education.

3.2. The study sample:

Several methods can be used to determine the sample size, in our case, we opted for the random method based on the principle of random selection of sample items. In this perspective, any element of the target population can belong to the sample with a similar and common probability for all elements. Indeed, we used the simple random method, with a sample formed by 232 university students starting from the first year of studies up to the doctoral cycle.

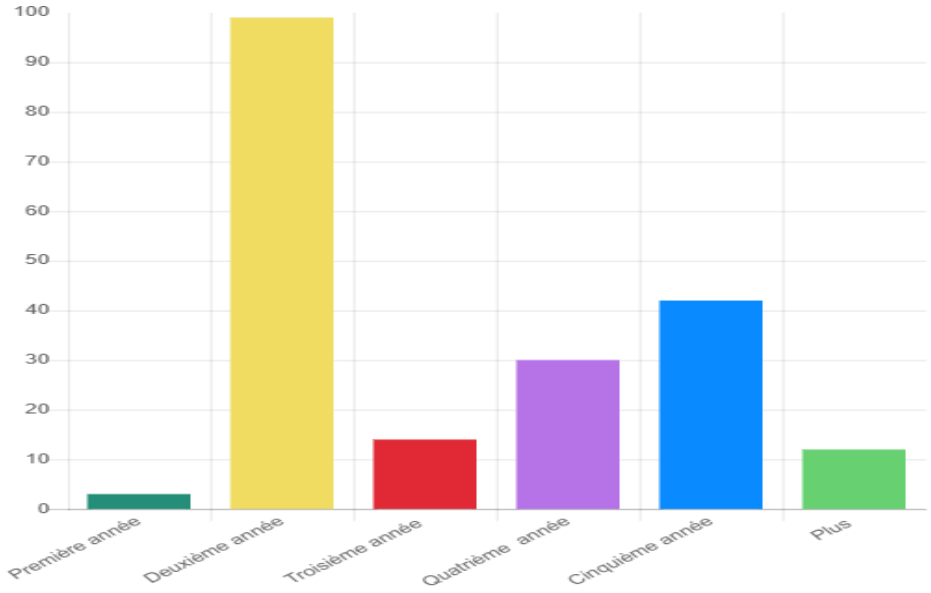
3.3. Analysis of survey results[5]:

3.3.1 The use of technological tools in training:

[5] https://app.dragnsurvey.com/report/share/a4660dec : this link includes the questionnaire and the results obtained.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

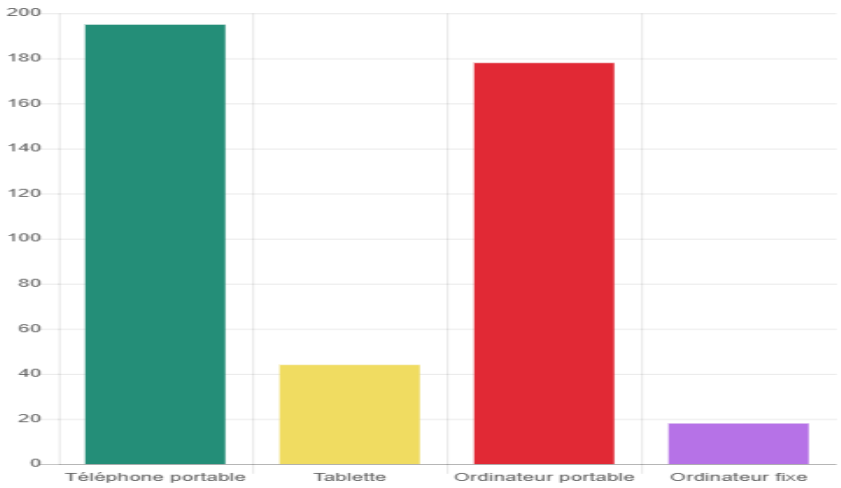
Figure 1: classification of students according to the level of studies.



Source: questionnaire data.

The sample consists of 43.61% of second-year students, 18.5% of fifth-year students, 13.22% of fourth-year students, and the rest is distributed among the other levels of the university cycle. Indeed, this sample represents Generation Z well.

Figure 2: the nature of the technological tools possessed by the students surveyed.

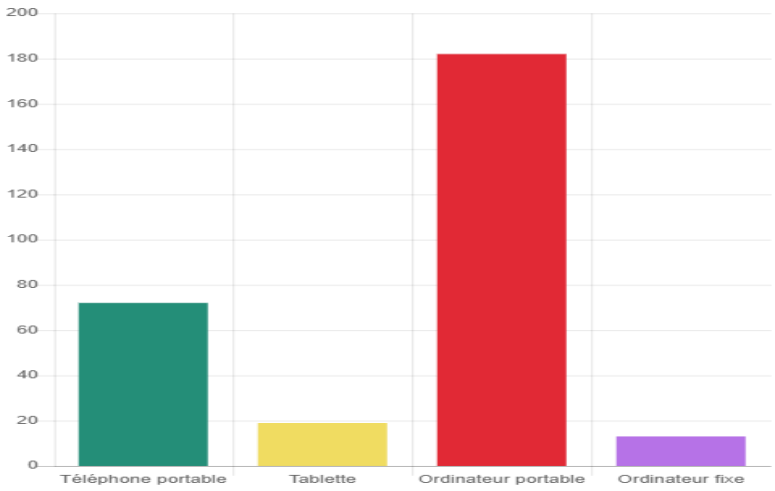


Source: questionnaire data.

The graph shows that 86% of the students surveyed alternately use mobile phones and laptops in their learning activities.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

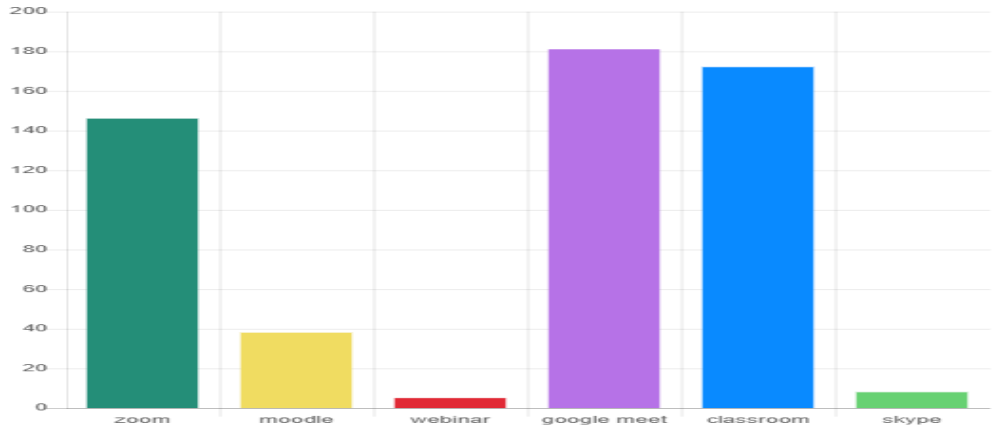
Figure 3: the adaptability of technological tools to learning activities.



Source: questionnaire data.

The results show that 86% of students in the higher university cycle use technological tools, in particular mobile phones and laptops, in their studies because of their practicality and ease of use.

Figure 4: the educational platforms most used by students in distance education:

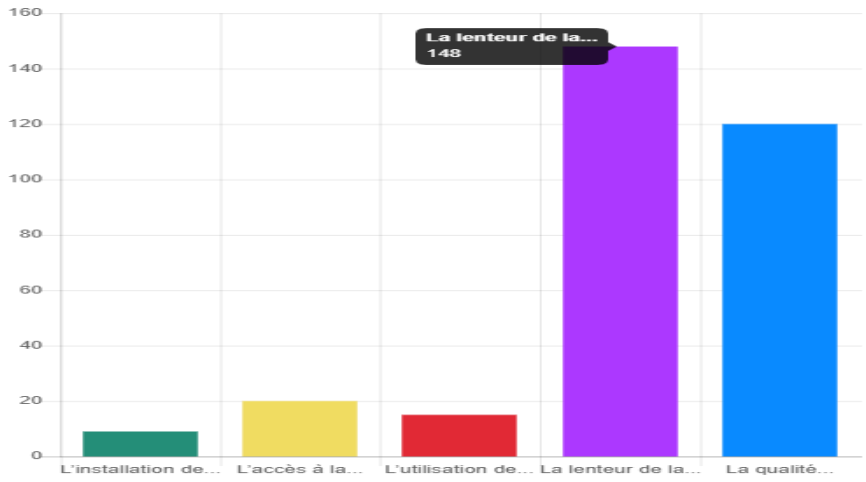


Source: questionnaire data.

According to the graph, the digital platforms most used by the students surveyed are respectively, Google meet, Google classroom and Zoom, 81.9%, 77.83% and 66.06%.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

Figure 5: Difficulties encountered when using digital platforms:



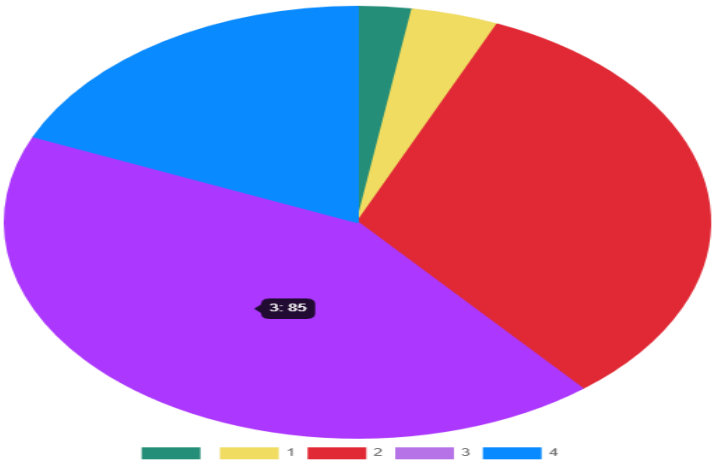
Source: questionnaire data

According to the students surveyed, the most frequent problems when using these platforms are generally:

- The slowness of the internet connection with 69.81% of votes
- Audiovisual quality with 56.6% of votes
- The other difficulties are related to the operation of the digital platform.

3.3.2 Evaluation trial of the impact of distance education on the quality of higher education.

Figure 6: assessment of the experience of digitizing educational content



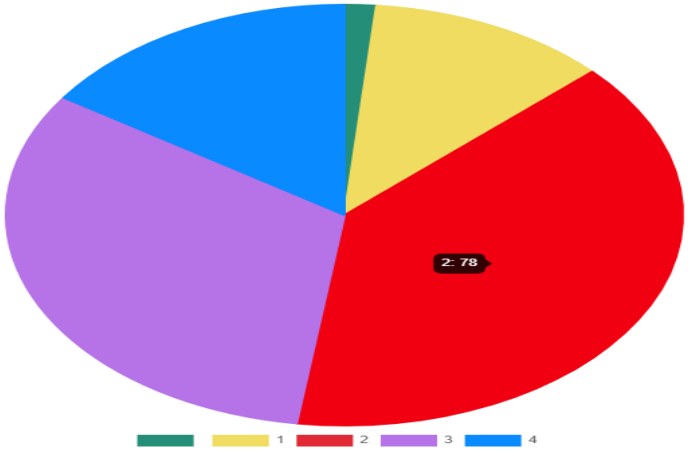
Source: questionnaire data.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

The evaluation of the student experience in relation to the digitization of educational content displays the following data:

- 42.5% of students gave a rating of 4/5.
- 32.5% of students gave a rating of 3/5.
- 18.5% of students gave a rating of 5/5.

Figure 7: the quality of educational content distributed remotely.



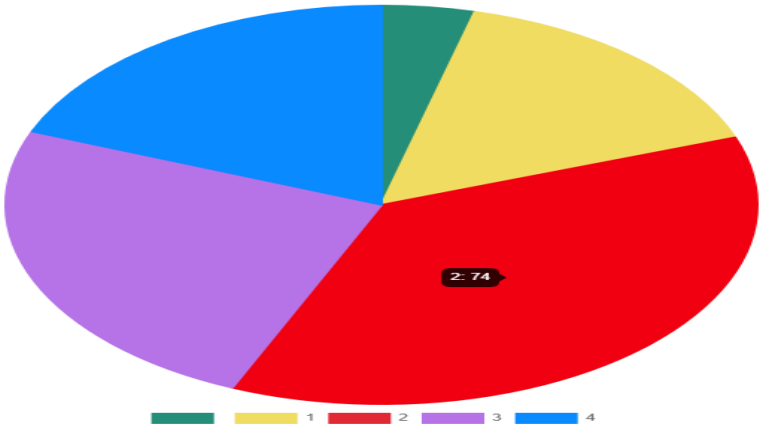
Source: questionnaire data.

Regarding the quality of the educational content delivered remotely, the students assigned the ratings as follows:

- 39.2% of students gave a grade of 3/5.
- 32.16% of students gave a grade of 4/5.
- 15.58% of students gave a grade of 5/5.
- 11.56% of students gave a mark of 2/5.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

Figure 8: the degree of understanding of distance learning courses.

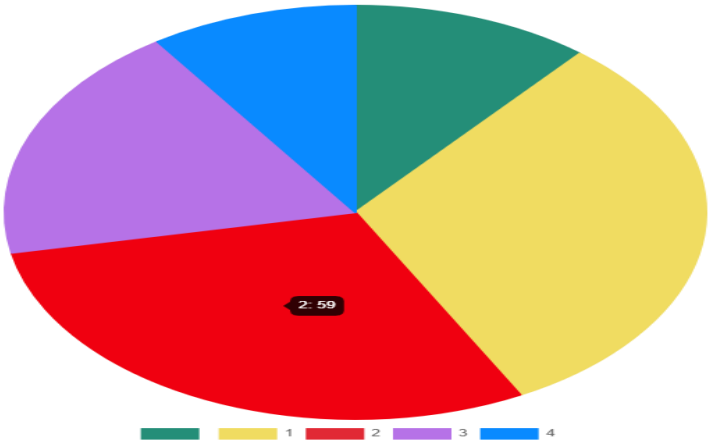


Source: questionnaire data

From the graph, it turns out that the level of understanding presents a failure in the distance learning process since:

- 37% rate the level of understanding as 3/5.
- 24.5% rate the level of understanding as 4/5.
- 19% rate the level of understanding as 5/5.
- 15% rate the level of understanding as 2/5.

Figure 9: the level of interaction with the teacher during distance learning courses.



Source: questionnaire data.

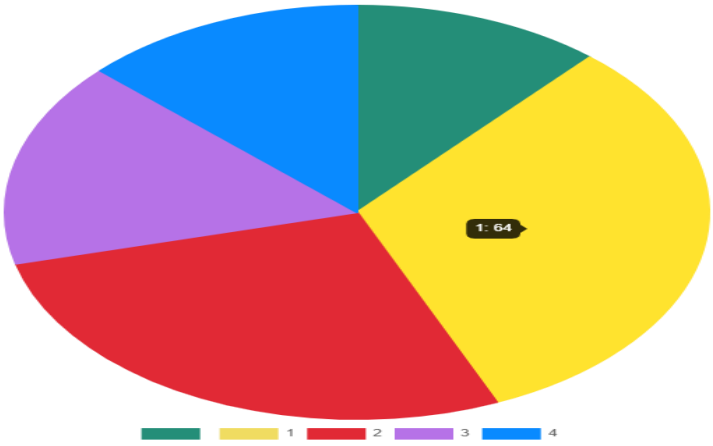
According to the students surveyed, interaction with the teacher is a real shortcoming in distance education, they affirm according to the votes that the degree of interaction in digital platforms remains to be desired.

- 32.16% of students rated the level of interaction 2/5.
- 29.65% of students rated the level of interaction 3/5.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

- 18.59% of students rated the level of interaction 4/5.
- 11.06% of students rated the level of interaction as 1/5.

Figure 10: Assessment of concentration level during distance learning courses.

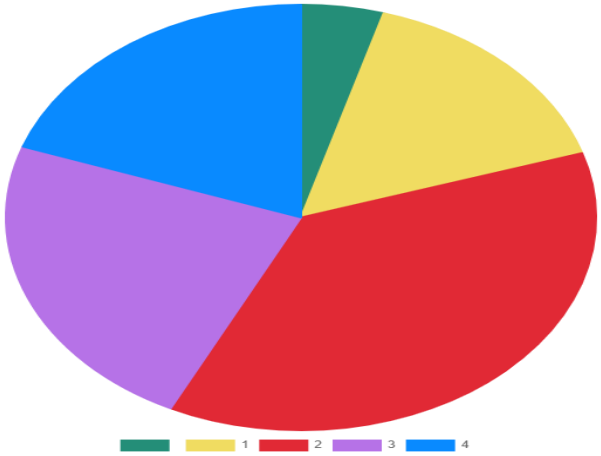


Source: questionnaire data

Maintaining a level of student concentration within the standards during distance learning courses proves to be a difficult problem to counteract, in fact the results show that:

- 32% of students assigned a low rating of around 2/5.
- 27% of students rated the concentration level as 3/5.
- 16% of students rated the level of concentration as 4/5.
- 13% of students rated the level of concentration as 5/5
- 11.5% of students rated the level of concentration 1/5.

Figure 11: Evaluation of the level of attendance of students during distance learning courses



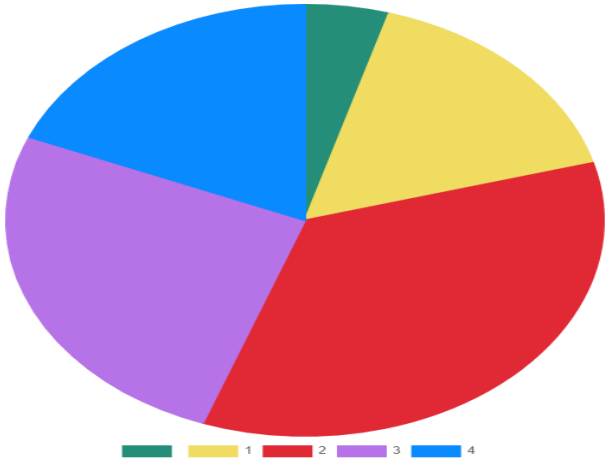
Source: questionnaire data

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

From the graph, the results show that:

- 37.56% of students rate their attendance during distance learning courses as 3/5.
- 22.84% of students rate their attendance during distance learning courses as 4/5.
- 19.29% of students rate their attendance during distance learning courses as 5/5.
- 15.74 of students rate their attendance during distance learning as 2/5.

Figure 12: Student satisfaction level for distance education mode

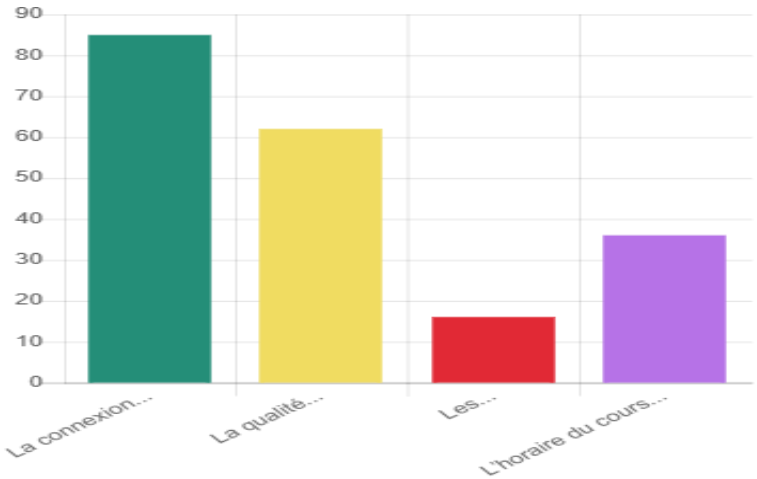


Source: questionnaire data

The students surveyed approve of a remarkable degree of satisfaction for the distance learning mode.

- 35.2% vote their level of satisfaction 3/5.
- 25.51% vote their level of satisfaction 4/5.
- 18.37% vote their level of satisfaction 5/5.

Figure 13: problems that hinder the smooth running of distance learning courses



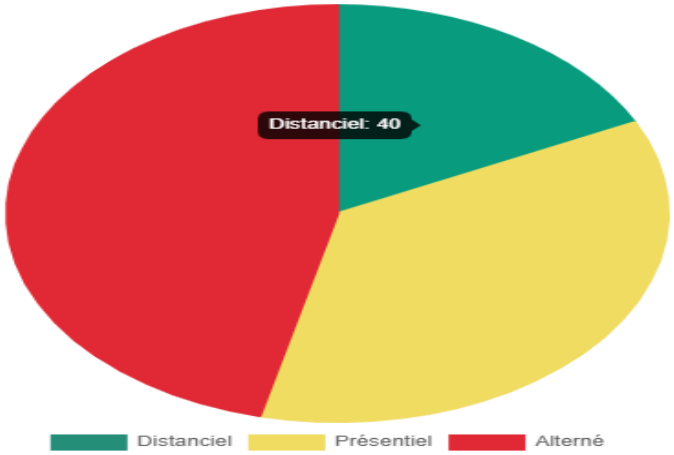
Source: questionnaire data

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

The results show that:

- 43.15% of students suffer from problems related to the internet connection.
- 30.96% complain about the audiovisual quality of the courses.
- 18.27 have a problem with the distance learning schedule.
- 7.61% find it difficult to manage the platforms' functionalities.

Figure 14: The mode of teaching that students prefer the most



Source: questionnaire data.

According to the graph, it can be seen that the alternation between the face-to-face and remote mode is the best option for 52.53% of the students, while 40.9% prefer the face-to-face mode, nevertheless 19.19% choose the distance mode.

The results highlight the enthusiasm for digital which could be justified, on the one hand, by the widespread use of ICT by students and teachers in their daily lives to communicate, have fun, get information, etc. This strong familiarization has facilitated the use of these tools for fun and educational purposes.

On the other hand, the availability, simplicity and accessibility of applications on smartphones, and laptop even with a low speed connection, encourage teachers to work on it, even if the level of interactivity remains to be desired, in addition to a multitude of problems that hinder the smooth running of distance learning and impact the quality of training. Indeed, these results deserve to be deepened in order to guide the transition to digital at the Moroccan university.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

CONCLUSION:

The quality of training is a requirement that calls for ingenious and continuous reform, and regulations that target existing dysfunctions that negatively impact the quality of training. The problem of the insertion of certain sectors comes to corroborate the discourse conveyed by common sense, by economic actors and by university actors, about training that is devalued on the job market. The new requirements of employment, trades and life in society make the match more complex training-employment in a context of change which profoundly influences local and global inclusion. If the question of insertion has become a major concern of public policy and society to emerge as the ultimate and utilitarian purpose of a university degree and its market value. the university must also keep at the center of its concerns the transmission of knowledge, the training of graduates, their critical thinking, the acquisition of cognitive knowledge, the culture of living together and citizenship.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Numéro 18 , Juin 2023

BIBLIOGRAPHIC REFERENCES:

- ALPERT, WT, KENNETH A. COUCH AND OSKAR R. HARMON, A. (2016), Randomized Assessment of Online Learning, American Economic Review.
- BELAFHAILI M., DAFIR A., NEFZAOUI A., EL MARHOUM A. (2020), Pedagogical continuity and distance learning during confinement: Perception and satisfaction of actors", National survey of students and teachers, The economist No. 5770.
- BALANCIER, P., & POUMAY, M. (2006), “E-learning in Higher Education”, Environment International Francophone.
- BOUCHAIB RIYAMI, (2018), Analysis of the effects of ICT on higher education in Morocco in a training context in collaboration with a French university, Education. University of South Brittany, 2018.
- BIBEAU, R. (2004), “Repertoire of repertoires of educational scenarios and learning activities with ICT. »
- CHEKOUR M., AL ACHHAB M., LAAFOU M. AND EL MOHAJIR B., (2014), Contribution to the integration of blended learning in the Moroccan education system, International Review of Technologies in University Pedagogy, www.ritpu. org, 2014.
- Clark BR (1998), Creating Entrepreneurial Universities: Organizational Pathways of Transformation, Oxford: Pergamon, 163p.
- ERNST, C. (2008). "E-learning, design and implementation of online teaching: practical guide for e-pedagogy ". (p.215).
- KARSENTI, T. (2006). "How to promote the success of African students in open and distance education (foad): pedagogical principles ". ICT and development, 2(9).
- KARSENTI, T., AND NGAMO, ST (2007). Quality of education in Africa: the potential role of ICT. International Review of Education.
- KLAUS SCHWAB. (2017). “The Fourth Industrial Revolution”. Edition Dunod.
- LOLLIA, M., & ISSAIEVA , E. (2020). How do teachers ensure pedagogical continuity and assess in the context of a pandemic? A study in Guadeloupe. e-JIREF.