

## DIGITAL DIVIDE AND ITS IMPACT ON THE STUDENTS' PERFORMANCE

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### ABSTRACT

People across the different world societies are using information and communication technology (ICT) for different purposes. Unfortunately, in contemporary societies, some people have little access to ICT and thus cannot have effective participation in society compared with those who have better access. The purpose of this study is to test the impact of ICTs on university life in general and students' performance in particular. The study relied on an online survey questionnaire which was administered to 30 undergraduate students in Chlef University. The findings of the survey revealed that there still an important number of students who do not have an easy access to ICT. Such limited access to ICTs is attributed to varied factors. Some students live in rural areas where due to the poor Internet coverage, they face difficulties to compete with students who live in urban areas with a better ICT access. The lack of ICT access has hindered the students' university performance in general and their language skills and the exchange of information with teachers and classmates.

**Keywords:** Access Communication, ICT Performance Technology

### Introduction

It has been difficult to conceive any contemporary society that cannot rely on technology (Cooper 2006) as it has dominated the varied life domains. The ability to master technology gives adults and children a huge advantage over those who are not so fortunate. It is mainly that reason that this age is called the information age. Indeed, the use of ICT is considered as modern indicator of the modern society success and development. With regard to education, the use of ICTs has become a common feature in the different school and university spheres. Students use ICT for various research tasks. Students can for instance have access to the required information within a short time. Such information can be retrieved from e-books, e-journals through the use of webs, databases and other ICTs modern forms. As the impact of ICTs on the students' learning level development has considered positive, the Ministry of Higher Education has made relentless effort to equip the Algerian universities with the modern ICTS means with the aim to renovate the pedagogical and learning practices for both teachers and learners. However, not all students have an easy access to ICT due to poor socioeconomic factors that have prevented students from having equal access to modern technologies. The current study will shed light on the effects of the digital divide on the students' performance and seek students' learning self developed learning strategies to overcome such a challenge.

### Digital Divide : a New Concept a New Challenge

According to Hameed (2007), the gulf between groups of individuals who have easy access to ICT and those who do not or may have little access to it. Such a fact may cause other material, educational and social divides. The term was introduced in the mid-1990 by Larry Irving, Jr., former US Assistant Secretary of Commerce for Telecommunication and Communication in order to draw the public the gap separating those who have access to new forms of technology (Boje & Dragulanescu, 2003). Nowadays, the digital divide emerges at different levels with many types such as the gender divide, the income divide and the age divide across local, national and worldwide levels. For some scholars, the digital divide is a natural phenomenon that does not deserve any intervention and the gap may be narrowed and corrected later on by development, while others insist on some interventions.

### The Digital Divide In the Developing Countries

ICTs is an important feature of the modern world. With regard to the developing countries, the use of ICTs have also proved of many benefits and advantages for the developing countries. With regard to economy, ICTs has created many jobs that helped to boost the economy growth in these countries. The internet use also helped countries and communities to participate and exchange goods and services under what is called the 'new information technology' regardless of the geographic location (Holloway, 2005). As it has created new jobs and enhanced the economy, ICTs has reduced poverty in the modern world in general and the developing countries in particular (Shirazi, Gholami, & Higón, 2009). With regard to social inclusion and political freedom, ICT has a significant role in the promotion of freedom of expression and information (Shirazi et al., 2009). Along with this promotion of freedom of expression another, ICTs has created economic freedom in the developing countries. Almost everyone admits that through the internet and ICTs we are connected to each other than ever before (Vidyasagar, 2006). As it is cheap, fast and easy, Internet technology has made the potential of economic exchange among people greater than any time before. Indeed, the internet is changing the people's life style by providing information of health, education, sport and art across the globe. For many countries, ICTs

has become a reference of development and governments are planning future economic strategies on ICT. An international scale provide a report that ranks 144 world countries according to the following indices :a)- the economic context and political-regulatory ; b)- the socio-economic impact of ICT ; c)- the use of ICT ; d)- the socio-economic impact of ICT ;and e)- the cost of the access combined with the availability of skills (The "Global Information Technology Report", 2013). According to this report, Algeria is ranked in 131st at the worldwide level while it occupies the 27th position at the African level over ranked by countries like Ethiopia, Uganda, Namibia, Bangladesh and Mali.

### ICT in Algeria

Though with a rather late step compared with neighbouring countries, Algeria announced a plan of reform to reconstruct and modernise the telecommunication sector since it 2000. Yet, despite the effort made to reform the telecommunication sector, ICT in Algeria has not reached a high level of integration in the economic sector and thus has not moved it forward. According to the Digital Algeria Report (2020), The number of Internet users in Algeria reached 22.71 million users in 2020 with an increase of 2.4 million users between 2019 and 2020. Algerian authorities have been relentless to provide easy access to all Algerians across the country. Since 2013, The Algerian Telecommunication Ministry have launched a new strategic called the e-Algeria to accelerate the ICT use in the country. The plan also aims at boosting the the Internet ICT use in public administration and businesses. The plan has other aims such as :developing incentive mechanisms and measures to give citizens access to ICT equipment and networks; stimulating the development of the digital economy; strengthening high and very high speed telecommunication infrastructure; developing human capacities; strengthening research, development and innovation; updating the national legal framework; recognising the value of international cooperation; and establishing e-monitoring and evaluation mechanisms. (Global Information Society Watch, 2009).

However, before this initiative, Algeria had other earlier attempts to integrate ICT in the different life sectors. In 2000, national telecom split was into two main bodies : Algeria Poste and Algeria Telecom. In the field of mobile phoning technology and since the end of 2005, the Ministry of Post, Information and Communication Technology has been gradually working on the implementation on the 3G thru 4G later on in the communication and internet sector. In 2006, Algeria launched other initiative for the sake of enhancing access to information :

- Oursatic whose aim was to increase the penetration of computers to every household,
- the Academic Research Network (ARN) with its aim to interconnect academic and research institutions all over Algeria and currently connect more than 75 institutions.
- Virtual Library for Human and Social Sciences which is a body that comprises 30 Algerian university libraries providing specialised information related to human and social sciences via direct Internet access.
- Virtual Library for Human and Social Sciences which aims at a wide use of internet by the general public through cybercafés with a cost of connectivity of USD 1.
- Web Review which is an Internet space developed by the Technical Information Research Centre ( CERIST). Its aim is to offer access in full text or abstract mode to scientific articles from different disciplines.

Certainly there were other similar initiatives such as the Academic Research Network (ARN), the Cyber Park and the Wikaya Net. ; yet those highlighted above were the most prominent ones.

### ICT in the field of education and research

As it has been omnipresent in many of the life sectors, ICT presence in the field of education and research seems much more crucial. One apparent benefit of ICT in the field of learning is its recurrent use in the online courses exploitation for distance educators and students separated by time and distance. However, the usefulness of ICT as a means of support for online courses will not replace the traditional modes of learning.

Such ICTs role in field of online learning not only fostered the relationship between teachers and learners especially in the Covid 19 period where no real of traditional class was possible, but also improved the potential of academic research, administrative support and pedagogical management. Moreover, it also served teachers to develop their course materials, this entail mainly the presentation of the lectures, the uploading of courses on learning platforms such as Moodle, the online course evaluation and the distant supervision.

### ICT's Role in Scientific Events

In relation to its role in the field of research and learning, ICT has contributed in the organisation of more than one scientific event such as conferences, colloquiums and study days across the different Algerian universities. Participants admitted the different gains of taking part in such online scientific events. They said that the online conferences are more affordable in terms of charges required in conventional scientific events

such as the hosting and the registration charges .As that it helps every person to interact without moving from one place to another.The online presentations are more adequate for shy presenters who are more reluctant to perform a face to face presentations with a conventional audience.Performing online conferencing can also help speakers record their presentations for future viewing .

However , online scientific events such as web conferences may have other disadvantages.Technical issues can cause disruptions compared with traditional .Thus , useful steps need to be taken to reduce the risk of technical issues by investing in high-quality and providing staff training.

**Future of ICTS in Algeria**

According to recent statistics , Algeria has about 26 million users ( Digital Algeria ,2021) .The number of users is expected to increase in the next years for many reasons.This is due first to the increase of mobile connections each year in Algeria when we know that there were about 46 mobile connectors in Algeria .Moreover , the rapid growth of the economic and technological sector in Algeria will make it unavoidable for Algerian government to invest more in the Internet sector in particular and in ICTs in general.With regard to the education sector , Algerian institutions and universities continue to absorb large number of students each year ; a challenge that necessitates the use of ICTs to solve the problem of absorption.Most importantly, the growing number of student will make communication and lecturing difficult , thus ; it will necessary for universities to find solutions and adapt to the new situation by integrating ICT in educational process to meet the needs of students and society (Jo Shan, 2013).

These factors will push the Algerian authorities to invest more in the ICTs field and with a deep revision of training sector, the role of the teacher and the learner.This leads to reflect more on the teaching methodology through the adoption of more relevant of ICTs teaching approaches rather than tradition methods of teaching.

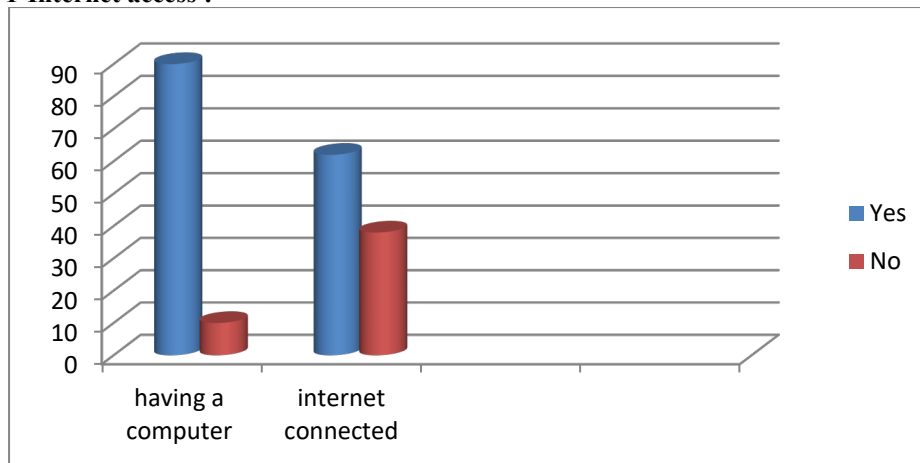
**Research Methodology**

To explore the influence that the lack of icts can have on university life in general and students’ performance in particular.The study relied on an online survey questionnaire which was administered to 30 undergraduate students in Chlef University. the items in the questionnaire were grouped under MCQ type . the survey results have been grouped in the figures below before being discussed and analysed .

The figures below illustrate clearly the collected data :

**9-Discussion of the Results**

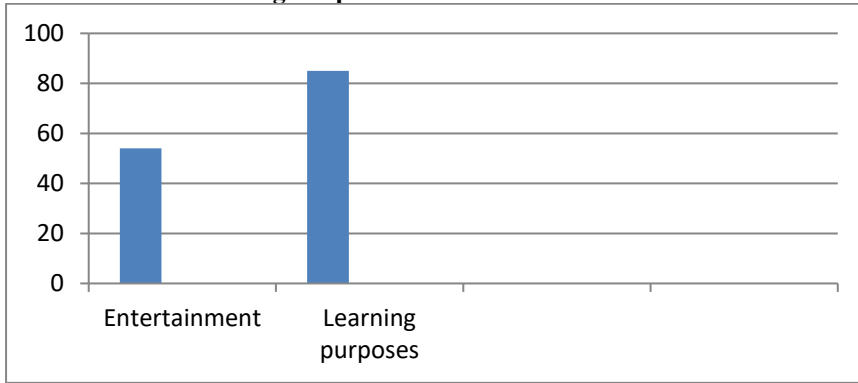
**1-Internet access :**



**Figure 1 : Internet and computer availability**

Almost all students admitted they own a computer though not all of them are internet connected.Variou reasons can explain why most students cannot have their have an Internet connected computer.One main reason is that most students in the study live in rural areas where the Internet coverage is poor.Thus , helping students in those remote areas overcome the issue of net shortage depends much on launching governemental policies that would boost the speed of Internet connection for communities living in those rural areas.It is to be mentioned that like many of the world countries , cities in Algeria have a better service of Internet connection compared to rural areas.Hence , the digital divide is a result of wrong policies that contributed to widen the gap noticed in development in many field of economy between urban and rurla areas in including the the technology and Internet sector.

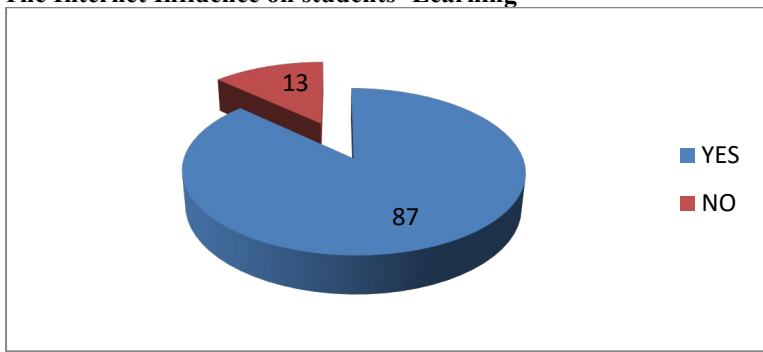
**2-Internet and Learning Purposes**



**Figure 2 : Internet Learning Purposes**

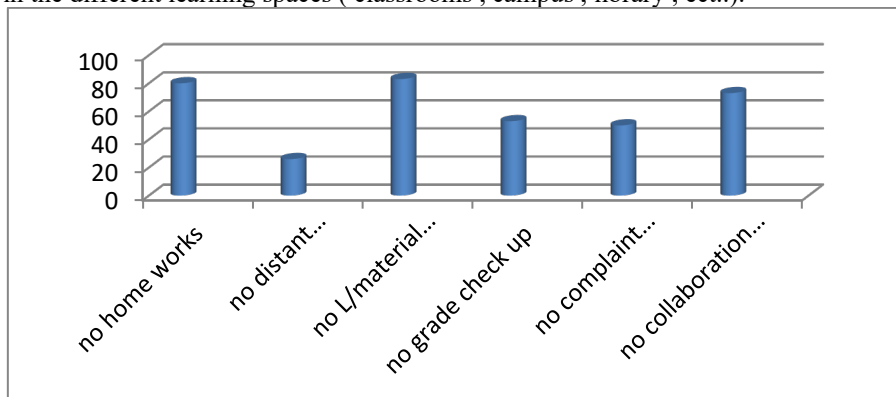
Figure 2 illustrates that a number of students are aware of the Internet importance in their studies ; thus , they tend to rely on it more in their studies .As it is displayed by figure 2, an important part of students still use Internet for entertainment ( playing games and listening to music mainly).Part of the students’ not using the Internet in their studies might be owed to their lack of awareness of the Internet information access advantages .Most questioned students also confirmed that they would like to use their mobiles more than computers in their studies and doing research as they find them more practical ( small in size and provide easy access being in use) . Such a fact may explain why students tendency to use less and less their computers to assit them in their studies.

**The Internet Influence on students’ Learning**



**Figure 3 : Internet Influence on the Students’ Learning Performance**

As it was expected , most students in the survey affirm the importance of Internet easy access in their learning performance . Whether in ordinary situation or unusual ones ( period of Covid 19) , Internet has awlays been a reliable tool of research and learning for most all learners in the current digital era.Hence, students coming from rural areas where they feel deprived of Internet abundance compared to the mates in urban areas often claim that the Internet shortage is affecting their learning performance negatively .In this regard and to provide equal learning opportunities for all learners , authorities should think of ensuring equal easy Internet access for all students coming the different areas .Faculties , for instance, can help students with setting up stable Internet linked rooms in the different learning spaces ( classrooms , campus , library , ect..).



**Figure 4 : The effect of Internet shortage on the different learning aspects**

The majority of students in the survey admitted that Internet shortage make them deprived mainly of not being able to submit online assignments and home works .Most importantly , students admit that without Internet stable connection are unable to download relevant learning materials ; a fact that would prevent students of the courses' advantages such as preparation for the course , extra research achievement ,ect.. .Students also complained about the internet shortage other drawback which lies in the fact that they simply cannot collaborate with their classmates appropriately each time they want to carry an online research task in in peers or in teams . Eventually , when students are deprived of team and peer work , this will impact negatively on their learning performance since peer working is viewed as method that helps students solidify their knowledge by teaching each other.

The outcomes of the data analysis converge to one apparent fact which is that without an easy internet access , students' research and learning performance will remain weak and will give chance to unequal learning performance among students. Moreover, the lack of ICT's and internet shortage will impact negatively on the students' learning motivation. Students also admit the importance of internet in keeping them in touch with university pedagogical and administrative updates such as grades check up , appeals' submissions , exam schedule , ect. Thus, the lack of internet will prevent students from all such advantages and other benefits such as being in a regular contact with the supervisor while doing research or seeking explanation about course content .

### Conclusion

Digital Divide among students in developing countries in general and in Algeria in particular seems a challenging fact against plans of providing university quality studies. The Ministry of Higher Education has recently launched university level new project to upgrade the level of university studies among worldwide universities' ranking . These included for instance the new project that aims to train teachers belonging to different university disciplines to master English and use it later as a means of instruction for their special content course delivery . However, an inspiring project such as this one needs an acceptable standards of ICTs infrastructure that would form the basis for quality English course performance starting from teaching materials development to online learning and ending with course evaluation.

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