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STUDENTS' KNOWLEDGE AND PERCEPTIONS TOWARDS TEACHERS' INTEGRATION OF ICT IN SECONDARY SCHOOL CLASSROOMS IN BENIN

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Keywords: *ICT integration, secondary school, students' perceptions, teacher training, education, Benin.*

Abstract: *This study aimed to explore the knowledge and perceptions of secondary school students in Benin regarding their teachers' integration of Information and Communication Technologies (ICT) in the classroom. A self-designed questionnaire was administered to 132 student-teachers from the Teacher Training School of Natitingou. The results indicated that the participants had a good understanding of ICT, its tools, and its benefits in the classroom. However, many teachers lacked the necessary knowledge, training, and equipment to incorporate these technologies in their teaching. The findings provide important insights into the state of ICT integration in the classroom in Benin and highlight the need for appropriate professional development programs for teachers. The study serves as a baseline for designing effective programs to improve ICT integration in teaching and learning in secondary schools.*

1. INTRODUCTION

Throughout recent years, in developed countries as well as in developing countries, students of all ages have become accustomed, in their daily life, to Information and Communication Technologies (ICTs) and all inherent devices. School curricula and teaching strategies are therefore being revised to help students learn using ICTs for their daily activities, assignments and projects. Educators around the world are encouraged to find innovative and creative ways to incorporate this technology into classroom learning [1, 2]. ICTs tools used in classroom settings comprise computers, laptops, television sets, video projector, video camera, USB keys, software package, etc. The reference [3] indicated that these devices help teachers to communicate effectively to the students in a unique way of understanding that facilitates learning. On the one hand, the integration of this technology in the classroom motivates students' engagement in the learning process, develops their information processing, stimulates their critical thinking skills and their problem solving competencies. On the other hand, students are eager to get involved in the teaching-learning process because they are accustomed to ICTs devices used by teachers in the classroom. However, despite the call to integrate ICTs in school settings and the benefits students are gaining throughout this integration, many teachers are reluctant to perform this incorporation. The reference [4] assert that some educators do not use ICT in their teaching because they are computer-phobic. Students are in a good position to talk about how their teachers are integrating technology and the obstacles hindering the incorporation of these devices in the

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classroom. In their study, the reference [5] investigated middle school and high school students' perceptions of their teachers use of ICT and their learning. Students in the study revealed that despite training and professional development programs received by many educators, they are still struggling to incorporate the latest technologies in their learning environments for many reasons such as lack of classroom time to train students in these skills and their own lack of knowledge and training.

The Republic of Benin was the first country in West Africa to connect to the Internet in 1995 [6]. Since then, many national and international NGOs provided computers and ICT tools to secondary schools through their programs and projects. One of these projects, the Project PIIES (Projetd'Introduction de l'Informatique dans les Etablissements Secondaires [Introduction Project of ICT tools in secondary schools]) equipped secondary and primary schools with computers. From 2008, the governement of the Republic of Benin, worked to equip the two sectors of education with ICT devices and to improves internet access. One of the main decisions of the country's second national forum on education in december 2014, was the integration of ICT in its education system. Therefore, nearly a decade after this resolution, it is suitable to investigate the state of art of ICT integration in the classroom in Benin and most importantly secondary schools students' knowledge about ICT and related tools and their perceptions vis-àvis ICT integration in the classroom by their science teachers. The significance of this study is twofold. It is believed that, first, the findings of this study will help secondary schools inspectors design the appropriate professional development programs for teachers; and secondly, these results could be of great interest to Benin's international partners in education to evaluate the impact of their investment in Benin.

Therefore, this paper aims first, at investigating sciences students' knowledge of ICT and its tools. The second goal of the study is to explore their perceptions of this integration in their classroom and its advantages.

Three research questions are addressed in the study :

- What do students know regarding ICT and its use in everyday life?
- What are students' perceptions of the way teachers integrate ICT in secondary schools classrooms in Benin ?
- What are students' perceptions related to the advantages of ICT integration in classrooms in Benin ?

2.LITERATURE REVIEW

In this literature review, two themes have been selected to check what research said about teacher's ICT integration in secondary classrooms: students perceptions related to teachers' ICT integration in classroom and the advantages of ICT integration in classroom

2.1. Students' Perceptions on their Teachers' ICT Integration in Classroom

Several studies have highlighted students' perceptions on technology integration in the classroom. Indeed, in the reference's [7] study, high schools Internet-savvy students report that there is a substantial disconnect between how they use the Internet for school and how they use it during the school day and under teacher direction. One of the main findings is related to how these participants perceived their teachers' technology integration in classroom. After stressing many advantages they are getting from the use of Internet, they added that they are not using this ICT tool for their assignments and school activities in school as much as they use it out of school. This disconnect is based on the lack of their teachers' Internet skills and knowledge. They

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pleaded for the provision to their teachers of professional development programs and technical assistance for effective technology integration.

In their study, the reference [5] investigate the perceptions of middle school (MS) and high school (HS) students in a United Stated school district related to ICT use in and out of school. In total, 67.1 % of HS and 67.6 % of MS students advance that few teachers have technology skills and are integrating ICT in classroom. Even though they recognized technology in school as moderate and limited, they still offered practical suggestions to help teachers learn to use ICT.

Other studies investigate teachers' needs to perform their job using ICT. Professionals in the field of education knew students were using technology outside of school to communicate [8]. Therefore, teachers needed training on how to integrate technology into the curriculum in order to "fill in the gap between traditional education practices in schools and the use of technology for teaching and learning" ([9], p. 147). Along with teacher expertise in teaching ICT, researchers [10, 11] mentioned that there are a lot of determinants impeding teachers to perform their job. For instance, the reference [10] found that the technological equipment of the school is the first obstacle facing teachers in integrating ICT in their classroom. Teachers' beliefs and attitudes for the everyday use of ICT devices in teaching are other hindrances stressed in the litérature [11, 12].

2.2.Advantages of ICT Integration in Classroom Settings

ICTs are generally accepted as the collections of technological equipment and tools as well as instructional resources used to communicate, disseminate, develop and manage information that enables the educators to modify the teaching methods they use in order to increase students interest. The literature abounds of research papers highlighting the advantages of integrating ICT in the classroom. Many investigators have provided evidence about the ICT integration advantages for teachers' pedagogical approaches, learners and even for teachers.

In a review of literature, the reference [13] identified 20 tremedous advantages of ICT integration in the classroom. We have listed some of these advantages which are: enhancement of interaction and increase of students' engagement ; improvement of students' learning ; amelioration of students' knowledge retention, empowerment of teachers for further teaching differentiation; and development of new life skills such as collaboration, productivity, leadership and communication. The effectiveness of ICT integration in schools was the main objective of the referrence's [14]study. Specifically, they studied the effectiveness of the integration of ICT from teaching and learning perspectives and the effective elements of ICT integration in teaching in public schools in Kuala Lumpur, Malaisia. A survey questionnaire was randomly distributed to 101 teachers from 10 public secondary schools to collect quantitative data of the research. The results show that ICT integration enhances both teaching and students' learning. The authors explained that ICT tools and equipment help teachers to prepare an active learning environment for students. Professional development training programs for teachers were found to play a key role in enhancing students' quality learning.

Using a phenomenological qualitative approach as the research method, the reference's [15] study has two specific objectives which are : to explore teachers and students, perceptions in using ICT tools in teaching and learning and to analyse the empowerment ways for the use of ICT tools in

teaching and learning. Nonprobabilitic sampling was used for selecting ten teachers and sixteen students. The results show that teachers mention the benefits of ICT tool in teaching. They attest that the ICT tools increase interactivity of learners, bring children closer together in learning outcome, improve the memory of students, easily explain the complex subject matter, create the interactive classes, help to improve students' attendance, make the lesson more enjoyable and increase the student's exposure. According to these students participants, ICT tools used in classroom increase the concentration in the classroom with the help of visual materials, make environment in the classroom funny and transform the traditional classroom into the learner centered classroom.

The reference [16] investigated the advantages and the challenges of ICT integration in EFL classrooms. They employed a qualitative descriptive design and interviewed six English teachers teaching at six different high schools in Indonesia. The selection was done based on the participants' familiarity of ICT integration as well as on their use of ICT in their teaching practices. The findings indicate that advantages of integrating ICT in EFL classrooms include :

(1) meeting students' needs and language level through adapted ICT programs ; (2) improving teachers' creativity in teaching english ; (3) providing faster access for teacher to deliver their teaching materials, (4) encouraging interactive work between teachers and students ; and (5) creating positive attitude of the students toward their learning and supporting teachers in learning-teaching process. One of the great challenges facing teachers is due to ICT influences on people around the world in that, it requires them to be literate in ICT and skillful in using ICT tools and facilities in their teaching practices. Other challenges identified comprise time management, technical supports, technical knowledge, and teachers' selfconfidence

Based on the literature related to ICT integration in secondary schools, the present study is the first to investigate teachers' expertise integrating ICT in their teaching in an African country. Again the results will constitute a base-line information on effective elements, design of professional development programs for teachers.

3. METHODOLOGY

3.1. Research Design and Participants of the Study

The study utilized a quantitative research method using a questionnaire as data collection instrument. Since the current study sought to determine students' knowledge about ICT and its use in everyday life and explore how they discern the integration in their classroom and its advantages, this methodology was deemed appropriate.

The population for the study is all secondary school students in the Republic of Benin. However, in the study, the participants were freshmen science students at the beginning of the academic year at the Teacher Training School of Natitingou, a branch from the university where the researcher is a faculty member. This convenience sample of students is chosen for the study for two reasons. First, as recent high school students, they just passed the *Baccalaureat* examination, the most important benchmark and the diploma needed to enter higher education. The researcher thinks that these entering student teachers represent the population of the high school students in the country. The second reason is, after completing a four-year middle school and a three-year high school courses, these students are supposed to have knowledge of ICT, its use in people's everyday life and how teachers integrate it into their classrooms. In

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total 132 (77.3 % male and 22.7 % female) participants (*M = 19.63 years old, SD = 1.75*) were informed that their participation was voluntary.

3.2. Data Collection Instrument

The research instrument adopted for this study was a self-designed questionnaire, segregated into three (3) parts. The first part, the general information, deals with the participants' biographical information and computer sciences courses attended. The second part consists of a total of 24 items, comprising four subscales : students' knowledge of ICT and its tools (five items) ; students' perceptions of teacher introduction of ICT in the classroom (nine items) ; and advantages of integration of ICT in classroom (ten items). The 24 items employed a five-point likert scale to measure the participants' responses, ranging from (1) strongly agree to (5) strongly disagree. The third part of the questionnaire consists of students' free reflections related to ICT integration in classroom. They were asked to reflect on the way they were taught using technology in their science classes during their secondary school years.

The instrument had been reviewed by a panel of erudite teacher educators expert in ICT usage in classroom. They validated the instrument for content and construct validity. Alpha reliability was 0.855 for the second part of the questionnaire. The instrument was developed in English but the research setting was a French speaking country. Translation and back translation [17] techniques were used to translate the instrument using two bilinguals. The first bilingual was a native French-African instructor and professional translator who translated the instrument from the source (English) to the target language (French). The second bilingual was an African literature professor from Benin teaching at the college level in Connecticut who blindly translated the questionnaire back from the target language to the source. Then, the researcher compared the two versions of the instrument, noticing if each statement was identical.

3.3.Data Collection and Analysis Procedure

The questionnaire was administered to the participat science students at the same time during a class session. Thirty minutes before the end of its session, the researcher handed out the questionnaire to his physical sciences students, while two other teachers, in their class, administered it to Mathematics and Biology and Earth Sciences students.

Descriptive statistics of percentages were used as the main descriptor of the results. Quantitative data from the instrument were analysed using descriptive and comparative statistics, such as means, percentages and standard deviation (SPSS, 19.0). The researcher read students' free reflections regarding ICT integration in the classroom in the third part of the questionnaire, and underlined useful themes or ideas to complement the quantitative findings.

4.RESULTS

For more clarity, the results collected for each question in the study are presented separately. In the first section, are presented the socio-demographic statistic of the participating students (See Table 1). For the Likert scale in Table 2 to 4 'Strongly agree' and 'Agree' were combined as 'Acceptance' (A), and 'Strongly Disagree' and 'Disagree' were combined to 'Non Acceptance' (NA), whereas Uncertain (UN) was maintained.

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Table 1. Socio-demographic statistic of participating students

Gender		Type of school		Availability of Computer room		Schooling attended computer sciences classes		Area attended	
Male (%)	Female (%)	Public (%)	Private (%)	Yes (%)	No (%)	Yes (%)	No (%)	Urban (%)	Rural (%)
77.3	22.7	77.3	22.7	37.0	63.0	21.0	79.0	48.0	52.0

Table 1 indicates that more than half (77.3 %) of the participants attended public secondary schools, while 52.0 % of them went to school in a rural area. In total, 63.0 % of the respondents mentioned that computer room was not available for practices in their school and only 21.0 % took computer sciences classes during their high school years.

4.1.Research Question # 1 : What Do Students Know Regarding ICT and its Use in Everyday Life?

The purpose of this question was to investigate, secondary students' knowledge of ICT, and their understanding of the use of ICT people's everyday life. Concerning their knowledge of ICT, students indicated their strong agreement (*M = 2.19, SD = 0.66*) with the items contained in this subscale. Also, the results in table 2 show that participating students in this study have a good knowledge of ICT and how people use them in their daily life.

Table 2. Percentages of students' responses related to their knowledge of ICT

	Statement	A (%)	UN (%)	NA (%)
A1	ICT is a combination of data processing and telecommunications, but it is more widespread in the context of the Internet network and 96.0 the multimedia	0.8	3.2	
A2	The use of ICT also includes those of classic services as the 89.0 cellphones, the tape recorders video, the fax, the radio and the TV with the numeric supports.	3.9	7.1	
A3	Computers, theirs softwares and networks of all shapes are very 3.8 93.2 largely associated with the implementation of ICT.		3.0	
A4	ICT nowadays, constitutes an element for the succes of the whole 4.6 76.3 educational enterprise.		19.1	
A5	The use of ICT impacts different domains like health, education 6.2 and 72.3 especially economy of its different sectors.		21.5	

The results in Table 2 show that the respondents in the study know the definition of ICT and its components :ICT is a combination of data processing and telecommunications, but it is more widespread in the context of the Internet network and the multimedia (A1, 96.0 %). Computers, their softwares and networks of all shapes are very largely associated with the implementation of ICT (A3, 93.2 %). ICT also includes those of classic services as the

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cellphones, tape recorders video, the fax, the radio and the TV with the numeric supports (A2, 89 %). Participants also know how people use ICT and its significance in people's life : ICT nowadays, constitutes an element for the success of the whole educational enterprise (A4, 76.3 %). The use of ICT impacts different domains like health, education and especially economy of its different sectors (A5, 72.3 %).

4.2.Research Question # 2 : What are Students' Perceptions of the Way Teachers Integrate ICT in Secondary Schools Classroom in Benin ?

The purpose of the second question is to describe students' perceptions about how teachers integrate ICT in the classroom. The respondents indicated their strong agreement (*M = 2.25, SD = 0.87*) with the items contained in this subscale. They know what teachers do or perform when integrating ICT in the classroom. Table 3. Percentages of students' responses about ICT integration in classroom

Statement		A (%)	UN (%)	NA (%)
B.Teacher introduction of ICT in classroom				
The teacher introduces ICT in classroom, when he/she....				
B6	... uses his computer to help understand the class material.	84.8	3.8	11.5
B7	... helps us to manipulate the computer.	73.7	5.4	20.9
B8	... uses some online resources to make his course more interessing.	82.0	7.0	11.0
B9	... sometimes presents his course using some PowerPoint.	62.3	13.1	24.6
B10	...sometimes presents his course using a video projector.	78.3	3.9	17.8
B11	... gives us some works to do using laptops.	72.1	11.6	16.3
B12	... makes projections of movies on television as support of course.	56.0	11.8	32.2
B13	...incites us to search for online resources to complete our works.	82.0	4.0	14.0
B14	... creates a forum in which we can discuss and express our ideas on a given topic.	78.5	7.1	14.3

Table 3 shows that participants in the study perceive the teachers' introduction of ICT in the classroom when he : uses his computer to help understand the class material (B6, 84.8 %) ; uses some online resources to make his course more interesting (B8, 82.0 %) ; encourages his students to search for online resources to complete their works (B13, 82.0 %) ; creates a forum in which they can discuss and express their ideas on a given topic (B14, 78.5 %) ; sometimes presents his course using a video projector (B10, 78.2 %) ; helps his students to manipulate the computer (B7, 73.7 %) and makes projections of movies on television as support of course (B12, 56.0 %).

About 80 % of the participants mentioned, through their free reflections, that their teachers are aware of ICT tools and most of the time are willing to integrate them in their teaching. However, they don't have the useful knowledge in using ICT tools. In other words, their teachers lack the skills to integrate ICT

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into their teaching. Some of them will come to class to ask for students' help before designing a Power Point in order to teach a science concept. Some teachers indicate that the school administration should provide them with the ICT tools especially the laptop to help them prepare their lesson plans. Below are three extracts from students' free reflections :
"Coming from a rural area and a school that doesn't have a computer room, I learned to use a computer and the associated softwares with the help of some of my friends. Indeed, some of my school friends have their relatives abroad who provide them with computers and many other electronic gadgets. Therefore, I know how this tool works and how that can help us learn better. I also noticed that some of our teachers encounter serious difficulties using their computer and usually ask assistance from some of my friends." (Students' writing up)
"Most of our teachers don't know how to use their computers and other related software even though they are aware of the significance of ICT integration in class. They ask for help from their students. I can attest that I usually assist my Life and Earth Sciences teacher to find moovies on youtube to show in his classes." (Student's writing up)
"Some of our teachers are complaining about not having a laptop. They cannot afford it because of its high cost and their low wages. They think that the school administration should provide them this ICT tool.
Therefore, they cannot use it in class." (Student's writing up)
The first extract mentions that, even though leaving in a poor area, students are able to learn how to use computers and other related devices. As a matter of fact, students learn from each other and most importantly the way they are sensitive to what is happenin their surroundings. The two last extracts indicate some of the obtacles hindering ICT integration in school settings according to these participants. Again, the extracts show that teachers lack skills to use ICT tools during preparation of their lesson plans and in classrooms and school administration support.

4.3.Research Question # 3 : What are Students' Perceptions Related to the Advantages of ICT Integration in Classrooms in Benin ?

This third research question is to explore participating students' perceptions related to the advantages of ICT integration in classroom. They demonstrated their strong agreement (*M = 2.11, SD = 0.22*) for the 11 items listed in the concerned subscale. Percentages acceptance of the items in Table 4 confirm that students know the advantages of ICT integration in the classroom.

Table 4. Percentages of answers about advantages of ICT integration in classroom

Statement	A (%)	UN (%)	NA (%)
C.Advantages of integration of ICT in classroom ***The integration of ICT in classroom ……***			
C15 …motivates me to better listen the course.	68.5	8.7	22.8
C16 … helps me to concentrate when the teacher teaches the course.	48.8	14.2	37.0
C17 … develops my abilities in learning and the resolution of problems.	76.0	12.0	12.0

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C18	... increases my engagement in activities in class.	70.1	10.2 19.7
C19	... facilitates my understanding of the course.	83.9	6.5 9.7
C20	... helps me to not get bored in class.	62.7	11.1 26.2
C21	... makes me follow in live (in direct) the studied phenomena.	78.4	8.8 12.8
C22	... helps me to search for documents online.	92.0	3.2 4.8
C23	... improves the quality of the teaching.	82.6	8.7 8.7
C24	... helps me to succeed in my exams.	68.3	14.3 17.3

Results in Table 4 show that the integration of ICT in the classroom : helps the students to search for documents online (C22, 92.0 %), facilitates their understanding of the course (C19, 83.9 %), improves the quality of the teaching (C23, 82.6 %), makes the students follow in live (in direct) the studied phenomena (C21, 78.4 %), develops their abilities in learning and the resolution of problems (C17, 76.0 %), increases students' engagement in activities in class (C18, 70.1 %), motivates students to better listen the course (C15, 68.5 %) and helps students to succeed in their exams (C24, 68.3 %).

In their free writings, first, most of the participating students (90 %) mentioned other advantages of ICT integration in the classroom such as understanding of science concepts (for example magnetism in electricity and chlorophil synthesis in Biology and Earth Sciences) and master computer softwares. Others complain of not having a computer room in their school. Second, they noticed that learning with ICT tools in the classroom help them in their everyday life outside of the classroom.

5.DISCUSSION

This research study investigates : (1) secondary schools students' knowledge about ICT and its use in people's everyday life, and (2) explore their perceptions related to teachers ICT integration in the classroom and its advantages. Salient findings of this study include participants science students' : (1) good knowledge of ICT, meaning the different definitions of ICT and its components, the way people use ICT tools and their significances of these tools in their life ; (2) perceptions concerning teachers ICT integration in the classroom and the advantages of ICT integration in the classroom. Consequently, the following sections discuss the findings of the study.

Answering the questionnaire, secondary schools students demonstrate good knowledge of ICT. In fact, the participants are aware of the different definitions of ICT and its components. They understand how people use ICT tools and their significances in their life. This finding is consistent with other researchers' results [3, 15]. The literature abounds of findings demonstrating the interest of secondary schools students in the technology and its components integrated in the education. In this study, even though 52.0 % of the participants attended secondary schools in a rural area (see Table 1) and are living in Benin, a developing country. It is a fact that they are used to ICT tools, such as computers to perform their classroom projects, cellphones to communicate, etc. They know how important these tools are in people's everyday life in this 21st century era.

Related to the second research question, the respondents indicated the different activities teachers perform when integrating ICT in the classroom. In other words, they know how teachers are integrating ICT in their classroom. Indeed, many studies studies in Africa [18, 13,

3] showed how science teachers are using ICT tools to prepare, design and teach classes and the effects of this teaching on students. These studies demonstrated science teachers' eagerness to teach their subject matter using ICT tools, because they are aware of the positive impacts of these tools on students' achievement. However, it is important to mention the many obtacles hindering teachers' willingness to integrate ICT in classroom related to teachers' training and infrastructural deficiency (electrification, computers, internet connectivity and multimedia equipments), mainly in rural areas. Students mention that in those areas, their teachers are struggling to integrate ICT in the classroom, because of lack of trainings and professional development programs and ICT tools shortages, and in spite of the efforts of the central government to make up these deficits. We can advance that one of the great findings of this study is teachers' humility described through the participants' writings. Teachers recognize their students' competencies using ICT tools and ask for their help to prepare the ICT materials to use during their teaching. Of course, students usually learn rapidly from their peers or other people and can master the use of ICT software, so they could assist their teachers in class to fix the ICT materials or in their home to find moovies on youtube or other useful websites to use in their lesson plans.

The findings of the third question showed that participating students indicated lots of advantages of teachers' ICT integration in classroom. ICT integration in the classroom enhances students' search for scientific documents online, their understanding of the course, the study of scientific phenomena, students' abilities in learning and the resolution of problems, students' engagement in activities in class, students' motivation to better listen to the course and helps students to succeed in their exams. Scientific papers [19, 13, 16] written on the subject corroborate these findings. Indeed, there's no need to demonstrate the numerous benefits students are getting from ICT integration in classroom. Beside these benefits, ICT tools are affecting negatively students' learning and way of life. Students are using the internet for plagiarism when responding to classroom activities. They are no longer making the necessary effort to properly solve problems because of the online availability of the answers to most of the problems.

6. CONLUSION

The purpose of this study is to investigate sciences students' knowledge of ICT and to explore how they perceive their teachers' ICT integration in their classroom and its advantages. Three research questions guided the data collection. The study results show that participating students have good knowledge of ICT, its different meanings and components, the way people use ICT tools in their everyday life. Secondly, students' perceptions of the way teachers integrate ICT in secondary schools classroom in Benin, the results indicate that teachers don't have the useful knowledge in using ICT tools, meaning teachers lack the skills to integrate ICT into their teaching. Thridly, the participants indicated lots of advantages of teachers' ICT integration in classroom including understanding of the course, the study of scientific phenomena, students' abilities in learning and the resolution of problems, students' engagement in activities in class, students' motivation to better listen to the course and helps students to succeed in their exams. Finally, participants mentioned n their free writing, some negative effects of teachers' ICT integration in classroom.

REFERENCES

AssarehAssareha& Hosseini Bidokht Mohsen (2011), "Barriers to e-teaching and e-learning," Procedia Computer Science, 3, pp791-95.

Sanchez Jaime, Alvares Salinas & Jordan Harris(2011) "Education with ICT in South Korea and Chile, » Int J of Ed Dev, vol. 31 no. 2, pp126-49.

Ojo Olanrewadju A. &Adu Emmanuel O. (2018). "The effectiveness of information and communication technologies (ICTs) in teaching and learning in high schools in Eastern Cape Province," South African Journal of Education, vol. 38, no. 2, S1-S11.

Sherman Kevin & Howard Sara K. (2012), Teachers' Beliefs about First- and Second-Order Barriers to ICT Integration: Preliminary Findings from a South African Study, 23rd International Conference of Society for Information Technology and Teacher Education. Charlottesville, VA: Association for the Advancement of Computing in Education.

Stefl-Mabry Joette, Radlick Michael & Doane William (2010) "Can you hear me now ? Student voice : high school and middle school students' perceptions of teachers, ICT and learning," Int J of Ed and Dev using Inform and Com Tech (IJEDICT), vol. 6 no. 4, pp64-82.

Agyeman O. Tutu (2007) "Survey of ICT and education in Africa : Benin Country report. In F. Glen, S. Issacs, & M. Trucano (Eds.). Survey of ICT and education in Africa," vol.2, no. 53, 2007. Country Reports. Accessed 4 august 2020 from http://documents1.worldbank.org/curated/en/642501468194647668/pdf/414750v20REVIS1Box0327 331B01PUBLIC1.pdf

Levin Douglas &ArafehSousan (2002), "The digital disconnect: The widening gap between Internetsavvy students and their schools," In Pew Internet & American Life Project: The Pew Internet and American Life Project.

Ally Mohamed &Samaka Mohammed (2013) "Open education resources and mobile technology to narrow the learning divide," The International Review of Research in Open and Distance Learning, vol. 14, no. 2, pp14-27.

Olele Clara Nnoduka (2013), "Manpower development for information and communication technologies (ICTs) integration in education," J of Business and Behavioral Sciences, vol. 25, no. 1, pp143-157.

Poultsakis Stefanos, Papadakis Stamatios, Kalogiannakis Michail and Psycharis Sarantos (2021). The management of digital learning objects of natural sciences and digital experiment simulation tools by teachers. Advance in Mobile Learning Educational Resesarch, 1(2), p. 58-71.

Vlasopoulou Maria, Kalogiannakis Michail, &Sifaki Eirini (2021). Investigating teachers' attitude and behavioral intentions for the impending integration of STEM education in primary school. In St.

Papadakis and M. Kalogiannakis (Eds.), Handbook of Research on Using Education Robotics to Facilitate Student

Learning (pp. 235-256). Hershey, PA: IGI Global.

Papadakis Stamatios, Vaiopoulou Julie, Sifaki Eirini, Stamovlasis Dimitri, Kalogiannakis Michail, &

Vassilakis, Kostas (2021). Factors that hinder in-Service teachers from incorporating educational Robotics into their daily or future teaching practice. In B. Csapó and J. Uhomoibhi (Eds). Proceedings of the 13th International Conference on Computer Supported Education (CSEDU 2021), Vol 2, 55-63, Online Streaming, April 23-25, 2021.

Loveless Becton (2022). 20 huge benefits of using technology inthe classroom. Accessed 18 may 2020 from : https://www.educationcorner.com/benefits-of-ict-in-teaching-and-learning/

Ghavifekr, Simi &Rosdy, Wan Athirah Wan. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. International Journal of Research in Education and Science (IJRES), 1(2), 175-191.

Mishra Nirmal Raj (2020). ICT integrated teaching: an interpretive inquiry of teachers and Ssudents' perceptions on ICT based teaching. Researcher, vol. 4, no. 2, p. 77-90.

Sari Suci Noer Wulan, PertiwiIntani and SunengsihSunengsih (2017). The advantages and challenges of ICT integration in EFL classrooms. In Proceedings of the Tenth Conference on Applied Linguistics and the Second English Language Teaching and Technology Conference in collaboration with the First International Conference on Language, Literature, Culture, and Education (CONAPLIN and ICOLLITE 2017)

Brislin Richard Walter (1970) "Back-translation for cross-cultural research," Journal of CrossCultural Psychology, vol. 1, no. 3, pp185–216.

Abanikannda Mutahir Oluwafemi (2018), "Effect of technology tools on Students interest in Biology : a survey of Osun State high schools in Nigeria," African Research Journal of Education and Social Sciences, vol. 5, no. 3, pp32-40.

Azmi Noureddine (2017). The benefits of using ICT in the EFL classroom : from perveived utility to potential challenges. Journal of Educational and Social Research Vol. 7 No.1, p. 111-118.