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# **An Evaluation of the Impacts of Information Communication Technology on Students of Health Information Management at Sani Zangon Daura School of Health Technology Daura, Katina State, Nigeria**

Surajo Abba Ahmed

**Department of General Studies (Information Communication Technology)  
Sani Zangon Daura, School of Health Technology Daura, Katsina State  
Katsina State College of Health Science and Technology  
Corresponding Author: [surajoabba2013@gmail.com](mailto:surajoabba2013@gmail.com)**

## **ABSTRACT**

The research aim to investigate the impact of Information and Communication Technology (ICT) facilities to students of health information management at Sani Zangon Daura, School of Health Technology Daura (SZDSHTD). Simple random sampling technique was adopted for the study from a sample of size of 93 students with a population of 300 students using Slovin's formula. A research questionnaire for students with title (QSTIOICTTLHIMS), were objectively used to investigate the impact and availability of ICT facilities, utilization of the ICT facilities, extent to which students utilizes ICT facilities, and also uncover the problems that limit full utilization of these facilities. Statistical mean was used to analyze the data obtained from the respondents. It was discovered that there is shortage of ICT tools in their school ICT computer laboratory. It was recommended among others that the college should seek government intervention to expand and renovate ICT laboratory to accommodate high number of students, and also the college should provide efficient solar power supply to avoid uninterrupted power supply.

**Keywords:** Evaluation, Impacts, Utilization, ICT, Health Technology, Students,

## **INTRODUCTION**

information and communication technology ICT facilitates health care education and practice by providing digital learning tools, enhancing digital access to information and understanding patients care through eHealth solutions, electronic health records, and using telehealth technology, to health care students, this means developing their digital skill to keep pace with evolving health care landscape, improving communication with patients and colleagues, and understand how to leverage new technologies for better healthcare outcome. ICT provides better educational resources, online platforms, and interactive tools that make learning more engaging and effective.

Information Communication Technology ICT play a critical role toward shaping health education students mindset through improving learning by providing interactive tools, enabling personalized learning with data and feedback, and promoting collaboration through online platform (Isaiah & Emmanuel, 2025).

### **Benefit of ICT to healthcare**

According Terms(2021) the following provide some of the benefit of ICT to healthcare, and health information and enabling consultation in health issues.

1. Promote patient-centred healthcare at a lower cost

2. Improve the quality of care and information sharing among health workers
3. Educate health professionals and patients – learning and training
4. Encourage a new form of relationship between patients and health providers
5. Reduce travel time because of telemedicine and obtain remote consultation, diagnosis, and treatment from specialists in hospitals that are far away.
6. Monitor public health threats

Katsina State College of Health Sciences and Technology (COHESTKAT) was established in 2006 by former Governor of the Katsina State Late President Ummaru Musa Yaradua , he merges the two satellites campuses located at Daura and Kankia into one single college , with its administrative office located at the state capital . The health institution mandate was to provide health training, health services to its students to be equipped and ready to serve the state and beyond. Therefore the role of ICT was incorporated into the curricula to better train the student for effective teaching and learning.

The aim of the study is to examine the effective utilization and management of ICT facilities by students of Health Information Department at Sani Zangon Daura , School of Health Technology Daura (SZDSHTD)

1. To determine availability of ICT facilities for instructional and learning process in Health Information Management Department at SZDSHTD.
2. To assess ICT utilization in teaching Health Information Management students at SZDSHTD.
3. To determine extent of ICT utilization by students in Health Information Management Department at SZDSHTD.
4. To determine the problems that hinder effective utilization of ICT facilities in teaching and learning process in Health Information Management Department at SZDSHTD

## LITERATURE REVIEWS

Information and Communication Technology (ICT) has been a very important tool to medical and health students, ICT has been useful in medical education through the use of Zoom and Google platforms, these platforms were conveniently been used in virtual teaching and conferences (N, 2020). Similarly ICT has also been found to be very useful in medical practice because it enhance information sharing among health personal and also patient as well , enhance education of the medical personal (Bashshur RL & J Kvedar JC, 2009) . The impact of cost reduction is significant while discharging the affairs of the health institution. ICT has been very helpful in the field of telehealth medicine and also provide access to vast amount of data resource.

### **Impact of ICT to Health Information Management students**

ICT has a significant impact on Health Information Management (HIM) students by equipping them with essential skills for managing and analyzing health data, improving the efficiency of healthcare delivery, and enabling new applications like telemedicine and electronic health records (EHRs). The integration of ICT into HIM curriculum prepares students for professional practice, ensuring they are proficient in using technology for tasks such as data management, patient record security, and communication. However, students also face challenges related to inadequate infrastructure, funding, and a need for continuous training to stay current with evolving technologies (IKonne, Hamza, & Wole, 2024).

### **The Role of ICT to Healthcare Setting**

According to Okpalla (2015) that information and communications technologies ICTs can play a critical role in improving healthcare for individuals and communities . by providing new and more efficient ways of accessing , communicating , and storing information , ICTS can help bridge the information divides that have emerged in the health sector in developing countries- between health professionals and the communities they serve and between the producers of health research and the practitioners who need it. through the development of database and other applications, ICTs also provide the capacity to improve health system efficiencies and prevent medical errors.

## METHODOLOGY

This research paper was aim to investigated impact of ICT facilities to students of Health Information Management Department at SZDSHTD, Katsina State. The research intended to obtain information from students of the department on the impact of effective utilization of ICT facilities in the school.

The sample size of the study was 93 students as respondents to the study, from a total population of 300 students. a simple random sampling technique was adopted for the study in the selection of the sample.

A structured questionnaire was used as data gathering instrument. A-5 point likert scale of Strongly Agreed(SA), Agreed(A), Undecided (UD) , Disagreed (D), and Strongly Disagreed(SD) with numerical values of 5,4,3,2,1 respectively was used. The instrument used was title “Questionnaire for STUDENTS on The Impact of ICT to Teaching and learning on Health Information Management Students (QSTIOICTTLHIMS)”. The instruments consist of 19 item questions based on the research questions. The respondent’s responses in the questionnaire items were used to analyze the research questions. Two experts in the field of measurement and evaluation from Sani Zangon Daura School of Health Technology, Daura validated the instrument. Their observation and corrections were effected before it was administered to the respondents. The data collected which was used based on the research questions that guide the study was analyzed using statistical mean. An item with a calculated mean value of equal to or greater than 3.5 was accepted, while item with mean value of less than 3.5 was rejected.

**Research Questions**

- i. Looking into availability of ICT facilities for teaching and learning instructional process in Health Information Management Department at SZDSHTD.
- ii. How are these ICT facilities been used in assessing teaching and learning process in Health Information Management Department at SZDSHTD?
- iii. To what extent are these ICT facilities been utilized by students in Health Information Management Department at SZDSHTD?
- iv. What are some of the problems that restrict effective utilization and management of ICT in teaching and learning process in Health Information Management Department at SZDSHTD?

**RESULTS**

**Research Question 1:** *How available are ICT facilities for teaching and learning process in the school.?*

**TABLE 1:** mean rating of respondents on the availability of ICT tools in SZSHTD (N=93).

S/N	Computer Facilities	Students $X_1$	Decision
1.	Computer set	2.34	REJECTED
2.	One unit of Printer	3.19	REJECTED
3.	One unit of Scanner	3.29	REJECTED
4.	One unit of Projector	3.31	REJECTED
	<b>Total Mean(<math>X_T</math>)</b>	<b>3.01</b>	<b>REJECTED</b>

The result of the analysis in table 1 above shows low availability of computer set, item 2, 3, 4 rejected. The grand mean rejected thus indicated that, there is shortage in the availability of ICT facilities in Health Information Management Department at SZSHTD.

**Research Question 2:** *How are these ICT facilities been used in assessing teaching and learning process?*

**Table 2:** Mean rating of respondents on the extent of ICT utilization by students of Sani Zangon Daura School of Health Technology Daura.(SZDSHTD). (N=93).

S/N	items	Students $X_1$	Decision
5.	The use of internet connection to stimulate teaching .	2.56	REJECTED
6.	Accessibility to e-books /e-library In the school ICT laboratory.	3.01	REJECTED
7.	Exposing students to e-learning and e-examination	2.60	REJECTED
8.	The use of e-presentation	2.47	REJECTED
9.	Trained in the use of internet by assignment and research	3.5	ACCEPTED
	<b>Total Mean(<math>X_T</math>)</b>	<b>2.828</b>	<b>REJECTED</b>

The result of analysis in table 2 above indicated that there is absence of internet connection at the school computer lab. and also teacher do not present their lesson using power point , item 6,7,9 were also rejected . The grand mean is rejected thus indicated that utilization of ICT facilities in SZDSHTD is below standard level.

**Research Question 3:** *To what extent are these ICT facilities been utilized by students?*

**Table 3:** mean rating of respondents on assessing teaching and learning outcome in SZDSHTD.

(N=93)

S/N	items	Students $X_1$	Decision
10.	The use of ICT resource to conduct and write examination	2.44	REJECTED
11.	The use of ICT resource in publishing and checking results online	3.10	REJECTED
12.	The use of email in giving and submitting assignment	3.11	REJECTED
<b>Total Mean(<math>X_T</math>)</b>		<b>2.88</b>	<b>REJECTED</b>

The results of the analysis in Table 3 indicate that the respondents rejected item 10, 11, and 12. The grand mean is rejected thus indicate that, there is poor teaching and learning outcome in evaluating students in the use of ICT, at SZDSHTD.

**Research Question 4:** *What are some of the problems that restrict effective utilization and management of ICT in teaching and learning?*

**Table 4:** mean rating of respondents that restrict effective utilization and management of ICT in teaching and learning process at SZDSHTD.

(N=93)

s/n	items	Students $X_1$	Decision
13.	There is adequate supply of computer hardware	2.82	REJECTED
14.	There is adequate supply of computer software	3.18	REJECTED
15.	There is regular power supply	2.19	REJECTED
16.	Sufficient training of student on the use of ICT	2.76	REJECTED
17.	There is good internet connectivity	2.56	REJECTED
18.	There is sufficient knowledge of how to use ICT by students	2.86	REJECTED
19.	There is good maintenance of ICT facilities	2.68	REJECTED
<b>Total Mean(<math>X_T</math>)</b>		<b>2.82</b>	<b>REJECTED</b>

The result of the analysis in Table 4 indicates that the respondents rejected all the items. The grand mean is also rejected, thus indicate that there is constraint that restrict effective utilization and management of ICT in teaching and learning process at Health Information Management Department: SZDSHTD, most especially looking at item 15 and 17 with every low indices.

## DISCUSSION OF FINDINGS

From the outcome of the analysis carried out, the researcher was able to outline the following findings:

1. The result revealed that there is shortage of ICT tool at the computer ICT laboratory. However most of the tools required to aid instructional teaching and learning experience are missing in the school ICT laboratory at SZDSHTD. In contrast to my finding by Nelson (2024) that utilization of ICT facilities by college students; majority of the students were satisfy with availability of ICT facilities at their computer laboratory .
2. Extent of ICT utilization by students at Health Information Department in SZDSHTD is below standard due to absence of internet connectivity, lack of e-presentation, non availability of functional e-books /library among many constraints .this finding is contrary to the finding of Shehu (2022) who indicated availability of these facilities at ICT Laboratory Shehu Idris College of Health Sciences and Technology, Makarfi, Kaduna State.
3. The study revealed that they were not exposed to e-exams, online checking of results all these factors posed a barrier to full utilization of ICT facilities at Health Information Management Department in SZDSHTD. This research is in disagreement with the finding of Shehu (2022) who also indicated full exposure of students to ICT utilization with virtual conference , e-exam, at Shehu Idris College of Health Sciences and Technology, Makarfi, Kaduna State.
4. The study was also able to identify some factors that restrict effective utilization of ICT in instructional delivery. These constraints include shortage of hardware, rise in students population, lack of regular power supply, insufficient training of student on the use of ICT, poor maintenance of the computer laboratory. this research work share some common problems with Shehu (2022) who also indicate inadequate fund to manage the ICT facilities , lack of regular power supply among many.

## RECOMMENDATIONS

Base on the findings of this study, the following recommendation were made;

1. The college as a matter of urgency should seek government intervention to expand and renovate ICT laboratory to accommodate high number of students at the school laboratory.
2. There is need for the college to supply hardware facilities to the school ICT laboratory, most hardware facilities in the lab. are outdated or need services.
3. There is need for the college to invest more on ICT to facilitate teaching and learning experience, to focus more on teacher training in the use of ICT.
4. The college should provide efficient solar power supply to avoid uninterrupted power supply; the college should also provide effective internet connectivity to students and the lab.
5. The school should embrace the culture of good maintenance to facilitate teaching and learning, without proper maintenance culture all effort would be in vain even with good supply of hardware.

## CONCLUSION

The study concluded that ICT is a very important tool that simplifies and transformed teaching and learning experience to students in the school and after school. Application of ICT to field of knowledge has greatly transformed teaching and learning experience, application of ICT to field such as ; e-presentation , e-examination, virtual teaching , e-library etc. however from the research finding it indicated that students are not enjoying ICT to the full capacity due to certain constraint that hinder full utilization of ICT resources in the that include; irregular electric power supply , limited availability of hardware , poor internet connectivity , insufficient training , among many other thing, at Health Information Department in SZDSHTD .

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