HIGHER EDUCATIONAL ENVIRONMENT AND EFFICIENCY: USERS OF HUMAN COMPUTER RESOURCES (HCR) AMONGST COLLEGE OF EDUCATION, COLLEGE OF NURSING FOR INSTRUCTIONAL DELIVERY IN KEBBI STATE, NIGERIA

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**Abstract**

The study examined users of human computer resources (HCR) amongst college of education, college of nursing and midwifery for instructional delivery. It is obvious that the whole world has become a global village whereby, the increasing of internet, exchanging or sharing information can be done for a little or no cost. Nevertheless, the ultimate goal is to allow researcher to gain an in-depth knowledge about availability and manner of usage of these computer resources for instructional delivery. It comprised all lecturers/instructors from the three Colleges within Kebbi state with a target population of 4,292 and a sample size of 214 lecturers/instructors was chosen based on 5%, advisors model (2006). The study used the quantitative method using the survey research design, the respondents were drawn using stratified and proportionate random sampling technique. Availability Checklist and questionnaire were adopted for data collection in this study. Two instruments Checklist and questionnaires were adopted from Suleiman (2016) for data collection for the study, the second instrument questionnaire contained 15 items across 4 point Likert scale. The findings revealed that the effect of using HCR in Kebbi State College of Education and Colleges of Nursing and Midwifery yielded a positive impact as becoming familiar with Human Computer Resources (HCR) would build-up users’ and efficiency. Not only should computer resources be cognitively fit, but lecturers, instructors should be ready to utilize them effectively. The study recommended amongst others that Lecturers/Instructors in these Colleges be motivated to develop framework of competency for effective utilization for instructional delivery.

**Keyword:** Computer resources, Efficiency, Human interaction, Instructional Delivery,

Higher Education

**Introduction**

For effective design and delivery contents by the instructors to their students, they must be willing to embrace Computer use resources as in this nowadays, the impact of Human Computer Interaction (HCI) is of enormous important to any country’s particularly, institutions of higher education, this is because of utilizing and sharing of information and communication. With the introduction of internet and use of computer resources, the world has become a global village, where information sharing can be received around the world for little or no cost (Samuel 2015), but to what extent did lecturers, students and administrators among colleges are ready to accept and utilize it. Many researches were carried out with regards to universities but few have been researched pertaining colleges of education. This wide gap has drawn the attention of the researchers to investigate the level of human computer interface in higher educational environment, specifically here in northern part of Nigeria.

For this reason, the use of human computer resources for instructional delivery is likely to develop and prosper high-learning environment. To this assertion, one will agree that when lectures, students, and staffs in our colleges can be influence and provide with computer resources, it would develop experience and user-friendly system. Upon all the benefits of having contact with human computer resources, a good number of higher institutions in developing countries fall short of designing, implementing and evaluating interactive computing system for human use and for studying the major phenomenon surrounding that consequently fall short of using HCI in most favorably. The ways and nature of how most developing countries like Nigeria and in particular, northern region and the fact that they adopt and become familiar with traditional way for instructional delivery as a result of lack of understanding the power of using human computer resources from either instructors, students or staffs particularly in college of education and colleges of nursing. This could be as a result of little or no attention given to current technological resources that moves around the world. Since there is an experience of un-exploitation of potential and fully use of these resources in long-run, this would ultimately affect their instructional delivery.

Definitely, computer resources have become a critical part of our everyday activities in our society therefore, lectures, students, and staffs begin to be aware of important of engaging with computer resources as they understand that they will have an excellent experience for instructional delivery and other activities within their institutions. Hence, it would contribute immensely to the learning atmosphere of any higher institutional learning environment. There seems to be a disparity between those higher institutional environments that interact with computer resources (HCR) and those that have little or never appreciate and interact with HCR resources, in terms of how they perceive or use computer system in their day-to-day or school activities, then, what is the level of efficiency by the users if at all they are utilizing it for instructional delivery? This gave rise to the curiosity of how users perceive and interact with these computers in a higher learning circumstance.

Use of computer resources is highly of benefits and concern to our colleges of education and colleges of nursing and midwifery, in terms of instructional delivery when effectively used. Therefore, the expected result is a great deployment of these computer resources for instructions especially in these colleges. The lectures are expected to be motivated in develop competency for the effective utilization of computer resources for instructional delivery.

The researchers are expecting good maintenance culture for the available computer resources for instructions in colleges in Kebbi State. Since it ensures sustainability in deployment of these resources in the colleges. We are expecting of regular training on computer resources that could be through workshop, conferences’ and seminars which should be organized for lecturers in order to motivate them in having appropriate and effective utilization of computer resources for human use and instructional.

This research aims to explore the level of interactions and efficiency with regards to using of these computer resources; to what extent the lectures, student, and administrators perceive the role of Human Computer Resources (HCR) in their school activities. In a nutshell, the aim of this research investigation was to discover whether Human Computer resources are really a helping hand or a stumbling block in higher educational environments as a case maybe.

**Literature review**

Of all the numerous benefits attached to integration of human computer resources in instructional delivery, many colleges today most especially among the Sub-Saharan African countries fail to acknowledge prosperity in educating their students through inclusion of these human computer resources at the expense of its enormous benefits. This can be seen through the ample literature regarding the benefits of human computer resources while delivering instructions, among them are the following;

Ojeni and Adetimirin (2013) that available human computer resources for instruction were more in Lead City university Nigeria compared with University of Ibadan, Nigeria. This explained variation in availability of the resources for instruction even among different colleges with different proprietorship. While Aduwa-Ogiegbaen & Iyamu (2005) are of the view that if Nigeria must be part of developed work in the near future, it must embrace the inclusion of human computer resources as well as in all aspects of human endeavor and discard or exercise some of the senescence habits and perspectives and retool completely. Nigeria cannot be counted among progressive nations using human computer resources in management of their educational institutions, as technology has become a critical and apparent tool for achieving success in education objectives

Ghavifekr., & Rosdy, (2015). Lament that inclusion of computer resources in educational organizations refers to the use of computer-based communication that incorporates into daily classroom instructional activities. In conjunction with preparing students for the current digital era, instructors are seen as the key players in using computer resources in their daily classroom situations. This is due to the capability of computer resources or ICT in providing dynamic and proactive teaching learning environment. This is to improve the quality, accessibility and cost-efficiency of the delivery of instruction to students at different level of education; it also refers to benefits from networking the learning communities to face the challenges of current globalization. Therefore, the use of human computer in instructional delivery, contributes a lot in the pedagogical aspects in which the application of human computer resources would leads to effective learning with the help and support from these computer resources element and components.

Syed, (2013); Onasanya, (2010) opined that instructors who are not prepared for human computer resource struggle to develop the resources required for instruction delivery. When computers are introduced very few if any, institutional administrators have in fact used computers in meaningful ways with students and therefore lack the necessary academic vision and experience to lead human computer integration and found out that most Lecturers of these Colleges in Kebbi State are not competent in the use of human computer resource for instruction. It is worth noting that effective utilization of human computer resource for instructional delivery is a function of competency as opined by Huang, Spector & Yang, (2019). Thus for Lecturers, teachers and instructors to effectively utilize human computer resource for instructional delivery, they must possess knowledge and skills of computer as well as positive attitudes.

Meenakshi (2013), affirmed that the aim and objectives of utilizing human computer in education is to implement the principle of life-long learning education, to increase a variety of educational services and medium or methodology to promote equal educational opportunities in obtaining educational information to develop a system of collecting responsibility in order to disseminate educational information, to promote computer use resources of all students, to develop distance educational system with national contents, to promote the culture of learning at institution.

Leng, (2008) reiterates that effective administrative is a key element of success in any innovation in educational institution. He contends that administration is critical for successful integration of human computer resources in colleges. Effective administration is needed to take advantage of the potential of human computer in education. This suggest that the success or failure of human computer resources when inclusion in learning depends on the leadership style in the college. It would therefore be interesting to investigate institution leaders’ technological leadership in Nigeria and ways in which school leaders can be specifically prepared for the integration of human computer resources in instructional delivery for successful achievement of educational goals (Susan, 2010).

The above literature expression and many more, necessitate for more research relating to use of human computer resources in instructions be carried out to better the ill-fated situation. This is also one of the reasons that motivate the researchers to embark on the research related to human computer interaction (HCI) in Kebbi State, Nigeria.It is believed that, this research having carried out successfully, contributed to knowledge on how some higher institutions perceive and relate instructional delivery with integration of human computer resources to students and other staffs to compromise on what they believe and realize while computer-resources are utilizing that is far better than the traditional delivery of instructions.

**Statement of the Problem.**

There is no doubt that individuals, lecturers/Instructors debate on the paramount benefits and advantages of utilizing human computer resources in institutions especially in colleges of education and colleges of nursing and midwifery. Systematically, research is needed to confirm that these institutions are actually acquiring and using the skills that are being taught on use of computer resources in instructional delivery, administrative activities and that the use of computer resources is the best way to achieve the outcomes in a college environment. Application of computer resources in any field is perceived to improve the standards of the college from one level to other level. Hence, there are a number of colleges that embraced the use of computer resources, but still, they never improve in the standards (academically, administratively and financially). Colleges have been faced by various challenges such as mismanagement of computer resources or facilities which occurred due to the lackadaisical attitude towards learning of computer resources for effective operations. Financial resources, low academic performance that could be result, due to poor college administration for integrating computer resources for instructional delivery. Therefore, a need to conduct a study on the provision and management of free and compulsory integration of human computer resources for quality instructional delivery in this century is of paramount important.

**Objectives of the Study**

1. To investigate the challenges, face by instructors, lecturers and students, and administrators in application of human computer resources in college in Kebbi State.
2. To determine the effectiveness of college management as it influence and integrate computer resources in instructional delivery in institutions (College of Education and Colleges of Nursing and Midwifery) in Kebbi State.

**Research Questions**

The following questions were raised to guide the conduct of the study:

1. What are the challenges, face by instructors, lecturers and students, and administrators in application of human computer resources in college in Kebbi State?
2. What is the effectiveness of college management as it influences and integrate computer resources in instructional delivery in institutions (college of education and colleges of nursing and midwifery) in Kebbi State?

**Methodology**

This research study adopted the quantitative method using survey research design. The choice of the design was to allow the researchers to gain an in-depth knowledge about availability and perceived mode of the usage of HCR for instructional delivery. The target population comprises all from both the college of education and that of nursing and midwifery. Though the method has some challenges, for instance, multiple data has to be used which would be time consuming during the collection and analysis, yet the method would be good in making a comparison between qualitative and quantitative data which would be used to arrive at conclusion (Crowell and Plano, 2011). The initial validation carried out on the two original instrument were considered appropriate for adoption in this study, Primary data was collected through fieldwork in the area of study in the form of semi structured interview with the purposively selected respondents, a clear and detail explanation is given to the participants to restore their confidence and willingness in participating regarding the instruments computer resources. The data collection exercise took place in 2025 by the researchers via face-to-face approach (face content) more so, the data collected were analyzed using descriptive statistics. The research questions would be answered using frequency count and mean. The proposed number of participants to be committed for this research as sample is 214 lecturers/instructors chosen based on 5%, advisors model (2006). for the questionnaire in answering using frequency count and mean.

**Table 1:** Population and Sample of the study.

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **SCHOOL** | **Lecturers** | **Sample** |
| 1 | Adamu Augie College of Education Argungu Kebbi State | 292 | 15 |
| 2 | College of Nursing/Midwifery Birnin Kebbi, Kebbi State. | 3,130 | 156 |
| 3 | Sajo College of Nursing and Midwifery Kebbi State. | 870 | 43 |
|  | **Total** | 4,292 | 214 |

**Source:** Registry/Establishment office 2025

**Result and Discussions**

The result obtained were presented in Table 2 and 3 for the two research questions respectively.

**Research Question One:** What are the challenges, face by instructors, lecturers and students, and administrators in application of human computer resources in college in Kebbi State?

**Table 2:** Availability of computer resource for instructions in College of Education, College of

Nursing and Midwifery in Kebbi State.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S/N | Computer Resources | AACOE Argungu. | College of N/M Birnin Kebbi. | Sajo coll. of N/M Birnin Kebbi. | Total |
| **A** | **Hardware** |  |  |  |  |
| 1 | Computer | 115 | 80 | 240 | 435 |
| 2 | Printer | 35 | 23 | 51 | 109 |
| 3 | Scanner | 5 | 3 | 12 | 20 |
| 4 | Photocopy machine | 10 | 4 | 9 | 23 |
| 5 | Projector (LCD) | 6 | 2 | 8 | 16 |
| 6 | Interactive whiteboard | 0 | 0 | 1 | 1 |
| **B** | **Software** |  |  |  |  |
| 4 | MS Word | 1 | 1 | 1 | 3 |
| 5 | MS Power Point | 1 | 1 | 1 | 3 |
| 6 | MS Excel | 1 | 1 | 1 | 3 |
| **C** | **Infrastructure** |  |  |  |  |
| 7 | Internet bandwidth | 45MBPS | 25MBPS | 150MBPS | 220MBPS |
| 8 | Intranet | 1 | 1 | 1 | 3 |
| 9 | ICT Resource Centre | 2 | 1 | 1 | 4 |

**Source:** Field work 2025

Table 2 indicated basic ICT resources in terms of hardware, software and ICT infrastructure available in the Colleges used in this Study in Kebbi State. The result revealed that available ICT resources for instruction in the Colleges include 435 computers, 109 printers, 20 scanners, 23 photocopy machines, 16 projectors, 1 interactive whiteboard, 4 ICT Resource centers. Specifically, AACOE Argungu had 115 computers, College of N/M BK had 80 computers while Sajo Coll of N/M had 240 computers respectively. In terms of internet bandwidth, AACOE Arg. (45 MBPS), College of N/M BK, (25 MBPS) and Sajo Coll of N/M BK, (150 MBPS). The higher MBPS implies that the speed of browsing is quicker, and download rate is larger. However, the result further revealed that AACOE Arg. And College of N/M BK lack interactive whiteboard for instruction. While Sajo, Coll of N/M BK had one whiteboard.

**Research Question two:** What is the effectiveness of college management as it influences and integrate computer resources in instructional delivery in institutions (college of education and colleges of nursing and midwifery) in Kebbi State?

Table 3: Mode of utilization of human resources in the Institutions by (Frequency count, Mean

and Modes)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| S/N | Item Statement | SA | A | D | SD | Mean | Remark |
| 1 | Lecturers design lectures presentation through slides in MS PowerPoint | 107 | 80 | 22 | 5 | 3.4 | Accept |
| 2 | Lecturer connects computer with projector & other media | 106 | 82 | 23 | 3 | 3.4 | Accept |
| 3 | Lecturers print materials from networked printers | 90 | 94 | 23 | 7 | 3.2 | Accept |
| 4 | Lecturers always use interactive whiteboard | 8 | 26 | 95 | 85 | 1.7 | Reject. |
| 5 | Lecturers uses public address system when students are many. | 85 | 95 | 26 | 11 | 3.2 | Accept |
| 6 | Lecturers use directorate of open access journals for research/publication | 165 | 44 | 4 | 1 | 3.7 | Accept |
| 7 | Lecturers use messenger apps to chat with different individuals | 8 | 52 | 81 | 73 | 1.9 | Reject |
| 8 | Lecturers use photocopy machines to prepare and give students lecture materials | 150 | 36 | 22 | 6 | 3.5 | Accept |
| 9 | Lecturers browse the internet to get relevant materials | 119 | 68 | 23 | 4 | 3.5 | Accept |
| 10 | Lecturer upload/download videos, images and texts in social sites | 72 | 86 | 44 | 12 | 3.0 | Accept |
| 11 | Lecturers use wireless network/ICT unit for internet connectivity | 93 | 74 | 37 | 10 | 3.2 | Accept |
| 12 | Lecturers gives student Computer Base Test in ICT Resource center/ ICT Lab | 56 | 72 | 66 | 20 | 2.8 | Accept |
| 13 | Lecturer uses simple editing tools like bold, italics, justify in research work. | 123 | 85 | 5 | 1 | 3.5 | Accept |
| 14 | Lecturer use on-line collaborative tools like Zoom, Skype, Google meet. | 157 | 46 | 5 | 6 | 3.7 | Accept |
| 15 | Lecturers join group chat in social media to receive and share information | 91 | 82 | 33 | 8 | 3.2 | Accept |

**Source:** Field work 2025

Table 3 Mode of utilization of human resources in the Institutions (Frequency count, Mean

and Modes) the result revealed that most lecturers utilize computer resources for teaching, research and social interaction because mean score for most of the item statements was greater than 2.5 benchmark. However, the item statement 4 and 7 in the table were rejected because the mean scores were greater than the benchmark of 2.5, therefore, most lecturers in the college of education and college of nursing and midwifery have perceived resources to be useful for teaching, research learning and social interaction.

**Discussion of Findings**

The study has found out that there is a differential deployment in hardware, software and infrastructure among the three colleges in Kebbi State. The first findings agreed with that of Ojeni and Adetimirin, (2013) that available human computer resources for instruction were more in Lead City university Nigeria compared with University of Ibadan, Nigeria. This explained variation in availability of the resources for instruction even among different colleges with different proprietorship. However, the findings of the current study nullified some previous findings by Aguele (2007), and Onasanya (2010) who reported that most colleges in Nigeria lacked human computer resources for instruction. This study found out that Lecturers of these Colleges in Kebbi State perceived human computer resources to be useful for teaching, research and social interaction. It implies that most of the Lecturers utilized the resources for teaching, research and social interaction. This is against most previous findings that not much digital technologies are used in pedagogical practice by Lecturers in most of the Colleges (Garba 2013; Agbatogun, 2006).

The second findings of the study are also in contrasts with that of Onasanya, (2010) found that most Lecturers of these Colleges in Kebbi State are not competent in the use of human computer resource for instruction. It is worth noting that effective utilization of human computer resource for instructional delivery is a function of competency as opined by Huang, Spector & Yang, (2019). Thus for Lecturers, teachers and instructors to effectively utilize human computer resource for instructional delivery, they must possess knowledge and skills of computer as well as positive attitudes. The findings of this study are in conformity with several studies that reported about the factors affecting computer resources for instructional delivery such as the a) Teacher factor in terms of attitude, b) Organizational factor like management, funding, c) Availability factor, e.g. resource development, d) Access factor e.g. functionality issues e) Support Services issues (manpower training and motivation), f) Psychological actors e.g. perception, interest and also the social/environmental factors which includes issues of social distancing, lockdown which are prevalent during covid-19 pandemic Alade, 2006; Musa, 2019). Generally, the discussion of findings has shown both opportunities and challenges of human computer resource for instruction in Nigeria with a particular reference to the College of Education and Colleges of Nursing and Midwifery in Kebbi State.

**Conclusion**

The study concluded that resource gaps exist among Colleges of education and Colleges of Nursing and Midwifery. The gaps manifest in terms of availability of the resources for instruction and competency of Lecturers in utilizing these resources for instructional delivery. Lecturers and instructors are faced with unprecedented changes, with often larger lecture rooms, big halls, diverse students including special students, digital natives and to cap it all changing technology in education. These problems can be addressed by making resources available and ensuring their competency in the use of this human computer resources for instructional delivery. **Recommendations**

From the forgoing discussions and findings of the study, the following recommendations were made to guide the policy and practice for a sound instructional delivery.

1. There should be deployment of more human computer resources for instruction especially in the College of Education and the College of Nursing and Midwifery in Kebbi State.
2. Lecturers and instructors in these Colleges should be motivated to be able to develop a sound framework of competency for effective utilization for instructional delivery.
3. There should good maintenance culture for the availability of ICT, human computer resources for instructional delivery in the Colleges, this will ensure sustainability in the development of the resources in the institutions.

**References**

Alade, A. (2006). *ICT in education: Teacher preparations and quality assurance. A lead paper presented at a national conference organized by the curriculum organisation of Nigeria held at Olabisi Onabanjo University, Ago Iwoye from 12th-15th September.*

Agbatogun. O. A. (2006). Attitude of teachers towards the integration of computer education into secondary school curriculum. *Journal of Research and Curriculum Teaching, 1 (1)* 20

Aguele, L. I. (2007). *Information and communication technology in universities in Nigeria:*

*Challenges for Teaching and Learning. Retrieved March 20, 2015 from*

*http//www.ecc.salford.ac.uk/proceedings/paper/2007/pdf*

Aduwa-Ogiegbaen, S. E, & Iyamu. E.O. S. (2005). Using Information and Communication

Technology in Secondary Schools in Nigeria: Problems and Prospects. *Educational*

*Technology & Society. 8(1),* 104 -112.

Advisor, (2006). *Table for determining sample size.*

Garba, S. A. (2013). An overview of technology integration in Nigerian colleges of education.

*Journal of* *Education and Learning, 7(1),* 35-42.

Ghavifekr, S. & Rosdy. W. A. W. (2015). Teaching and learning with technology:

Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science (IJRES). (2).* 175-191*.*

Huang. R. Spector, J. M. & Yang. J. (2019). Educational technology: A primer for the 21st Century,

Singapore: Springer Nature Singapore Pte. Ltd.

Leng. Wee, Nig. (2008). Transformational Leadership and Integration of ICT into Teaching. *The*

*Asia Pacific Educational Research* 17 (1), 1–14.

Meenakshi, (2013). “Importance of ICT in Education.” IOSR *Journal of Research & Method I*

*Education (IOSR-JRME). 4. 03-08. Accessed on 15.7. 2018 from IORS Journal Org.*

*Interaction.*

Syed. N. (2013). An Effective use of ICT for Education and Learning by Drawing on Worldwide

Knowledge. Research and Experience: *Scholarly journal of Education 2 (4),* 38-45

Musa, Y. (2019). *Uses and challenges of ICT in teacher education of public senior secondary schools in Katsina metropolis, Nigeria. In F.O. Olafare & H. O. Bolaji. Proceedings of the 3rd International Conference and workshop on Innovation, Technology and Education by the Association for Innovative Technology Integration in Education (AITE) held at FCT College of Education*, Zuba. Abuja

Ojeni, A. & Adetimirin, A. (2013). Gender influence on information and communication technology use by undergraduates in two University Libraries in Nigeria. *Computer Communication & Collaboration, 1,* 62-71.

Onasanya, S. A (2010). Higher institution lecturers’ attitudes towards integration of ICT into teaching and Research in Nigeria. *Research Journal of Information and Technology, 2.* 1-10