Original Research Article

Computer Literacy and Teachers' Job Performance in Secondary Schools in Danko-Wasagu Local Government Area, Kebbi State, Nigeria

Wakkala Garba Tumburku[1*], Aliyu Hassan Kamba[2], Sagir Muhammad[3], Zainab Lawal Gwandu[4]

[1]Faculty of Education, Department of Education, Kebbi State University of Sc. and Tech., Aliero, Nigeria
[2]Faculty of Education, Department of Science Education, Kebbi State University of Science &Tech., Aliero, Nigeria
[3]Faculty of Education, Department of Science Education, Kebbi State University of Science & Techn., Aliero, Nigeria
[4]College of Open, Distance and E-Learning, Kampala International University, Kampala, Uganda

Abstract

At present, it is clear evidence that many students are conversant with digital devices in their learning activities. However, some teachers are facing problems of using digital devices in their teaching activities. For that reason, applying computer/ICT devices could assist instructors in improving their job performance which in turn, enhances students' learning achievement. The purpose of the study was to investigate the influence of teachers' computer literacy on their job performance. The specific objectives were: to determine the level of teachers' computer literacy; to determine the level of teachers' job performance; to examine the relationship between teachers' computer literacy and their job performance; and to determine the impact of computer literacy on teachers' performance. This study employed quantitative method survey design using questionnaires as instruments. Systematic random sampling technique was used in this study. A total of 185 teachers from senior secondary schools in Danko-Wasagu Local Government Area were involved as respondents. Data was analyzed using percentage distribution, mean value, correlation Pearson product moment, and multiple regression method. Findings showed that the level of teachers' job performance is high; the level of teachers' computer literacy is high; there exist a relationship between teachers' computer literacy and their job performance; and that teachers' computer literacy was a positive predictor of their performance. Conclusively, in order to increase teachers' job performance, it is necessary to promote teachers' access to computers/internet, knowledge and skills of operating computers as well as their attitudes towards using digital devices.
Index Terms: Computer literacy; teachers; secondary schools; job performance.

INTRODUCTION

It is a common knowledge that education is the bed rock for every technological and economic development of any Nation. There is no doubt that technology plays a great role in all human endeavors in present world. The role of internet and computer as an electronic device that accepts and processes data and produces the result in form of information with minimum level of human intervention cannot be underscored in every sector of the economy, including education [5]. Computer is the heart of one of the major technologies of the world- Information and Communication Technology (ICT) [5]. Although teaching is older than technology, Computer can assist teachers in performing their duty more effectively and efficiently as it helps manufacturing industries in easing the processes of planning, organizing and controlling their production and sales.

Computer literacy is the knowledge and ability to use computer and technology efficiently [3]. Computer literacy can also be referred to as the comfort level someone has by using computer programmers and other application that are related to computers [3]. Computer literacy is the knowledge and ability to efficiently use computer. It can also refer to the comfort level someone can use the computer and its application in solving specific problem [8]. It involves being able to operate the computer efficiently without an aid and manipulate the software associated with it [9].

Computer literacy in education entails the use of computer knowledge and skills in the teaching and learning process more especially in the classroom situation. It involves the use of computer and

its application in the transmission of knowledge or information. Computers are parts of education; computers are used in schools for many applications such as writing papers, searching of the internet (browsing) for information, multimedia in education etc [7]. For education to improve, there is need for curriculum implementers (teachers) to be computer literates. As revealed, [6] stated that computer literacy involves understanding the computers and related systems, for this scholars' computer literacy meant having the ability to use a computer for practiced purposes.

Computers have introduced a new era in traditional methods of teaching and offering new teaching and learning experiences to both teachers and students [5]. The use of computer in classroom instruction has transformed teaching and learning, it has improved learning outcome and information sharing, it has supported both the teachers and students for an improvement of the teaching and learning process [8]. In the past, teachers were mostly evaluated based only on their practice using a set of qualitative measurement approaches such as classroom evaluation and real fact analysis. However, a perfect teacher job performance requires a combination of qualitative measures of teachers' practices with quantitative measures of student achievement outcomes in both internal and external examinations [10]. There is therefore, a strong need for students to be well exposed to efficient classroom instruction. To achieve this, the instructor must be well knowledgeable as regards to the use of computer in the school running. Computer literacy here was measured in terms of: accessibility to computer/internet; knowledge of computers; skills of operating computers; and attitudes towards using digital devices.

Teacher Performance has been described differently by different scholars. Teachers' performance has been described as the act of accomplishing or executing a given task [14]. Teachers' performance has also been defined by [11] as the duties performed by a teacher at a particular period in the school system in attaining the goals of education. Teachers' performance according to [4] and [12] is the teachers' ability to combine relevant inputs for the enhancement of the processes of teaching and learning. This requires the use of computer/internet resources to enhance instructions. In a similar spirit, Various writers identified different variables for measuring teachers' performance; effective teaching, lesson note preparation, effective use of scheme of work, effective supervision, monitoring of students" work and disciplinary ability are virtues which teachers should uphold effectively in the school system [2], teachers" performance could be measured through annual report of his/ her activities in terms of performance in teaching, lesson preparation, and lesson presentation, mastery of subject matter, competence, teachers"

commitment to job and extra-curricular activities [1]. In [15] teacher effectiveness was measured in terms of four constructs; job satisfaction, team working, organizational commitment and student quality. However, this study measured teachers' performance in terms of lesson plan preparation, teaching, student quality and assessing students. It is therefore, believed that teachers' performance would be better and more effective by the use of computer and ICT. For this reason, teachers are expected to be computer /ICT literate for a better job performance.

Improving education quality is a priority for most developing nations such that policy makers agree that such improvements could lead to structural shifts in productivity and boost long term economy [8].

Problem Statement
In today's world of technology, integration of computer and ICT into the teaching-learning activities across all levels of education is necessary, as education is generally considered a means for attaining individual, societal, national and global development. However, failure to provide the necessary computer/ICT facilities, resource personnel to operate and maintain them and inability to use them in teaching and learning, the required quality education will not be provided thereby defeating the basic aim of education. It is therefore, necessary to investigate the influence of computer literacy on teachers' job performance.

Purpose of the Study
The purpose of this study was to investigate the influence of teachers' computer literacy on their job performance in secondary schools in Danko-Wasagu Local Government Area, Kebbi State, Nigeria.

Research questions
The following research questions were formulated to guide this study:
1. What is the computer literacy level of secondary school teachers in Danko-Wasa Local Government Area Secondary Schools?
2. What is the level of teachers' job performance in Danko-Wasagu Local Government Area Secondary Schools?
3. Is there a significant relationship between computer literacy and teacher's performance?
4. Does computer literacy influence teachers performance in Danko-Wasagu Local Government Area Secondary Schools?

LITERATURE REVIEW
The work of [16] to investigate the relationship between computer literacy and teacher's job effectiveness of secondary schools in Kwara State, Nigeria, indicated; that a high positive significant relationship exists between computer literacy and teachers' effectiveness in secondary schools; that a high significant difference exists between job performance of teachers that are computer literate and those that are

non-computer literate; and that computer appreciation by the teachers aids effectiveness in their jobs. In a similar spirit, [10] discovered that teachers exposed to workshops and seminars on the use of computer systems were more effective in secondary schools. Similarly, it was revealed that computer literacy by teachers will enhance computer aided instruction [17]. It was further stated that computer literacy will aid the teachers during teaching-learning processes, and thus enhance teacher's effectiveness in the schools [17]. In their study, [5] revealed that computer literacy among the teachers was slightly below average, and that significant relationship existed between teacher computer literacy and job effectiveness. Also, [7] stated that there is low level of computer literacy among teachers in Ahoada East local Government Area of Rivers State. The work of [8] indicates that among secondary school teachers in Rivers State, those with computer literacy are higher than the computer illiterate teachers, and that the impact of computer literacy among secondary school teachers in Rivers State is very low. A study to investigate the level of teacher effectiveness by [15] found that teachers' effectiveness was high. Another revelation by [18] was that knowledge of computers would aid effective management of information systems in the schools as well as effective decision-making processes which eventually make administration of schools effective. It is expected that when school administration is effective, teachers' performance will equally be effective. A study by [10] also indicates the existence of a significant relationship between computer literacy and teacher job effectiveness.The aforementioned studies were carried out in North Central and South-Southern Nigeria, as well as outside country. However, there is limited or no studies (to the best of our knowledge) of this nature carried out in Danko-Wasagu Local Government Area of Kebbi State (North-Western) Nigeria, leaving a gap we intend to fill.

METHODOLOGY

A descriptive survey was used in this study to correlate the influence of computer literacy on teacher job performance in Secondary Schools in Danko-Wasagu Local Government area of Kebbi State. The population for the study comprised all the 16 senior secondary schools in Danko-Wasagu Local Government . According to [20], there are 384 teachers in these schools, out of which 196 were randomly selected as sample for the study using Slovene's formula (185 responses retrieved). Two instruments were used to gather information. These were 'Computer Literacy Questionnaire' (CLQ) and Teacher Job Performance Questionnaire' (TJPQ). The former was a standardized questionnaire while the later was a researcher formulated questionnaire. The validity of the instruments was done by six experts in the areas of Educational Management and Educational Measurement and Evaluation from Kebbi State University of Science and Technology, Aliero. Reliability test was done using test re-test method which yielded 0.71 and 0.79 coefficients for CLQ and TJPQ, respectively after been subjected to Pearson product- moment correlation statistic. Frequency counts, Percentage distribution, Mean, Standard Deviation and Regression were used to analyse research questions raised in the study while research hypotheses were tested using Pearson product moment correlation statistic at 0.05 significance levels.

EVALUATION AND DISCUSSION OF RESULTS

Research Question 1: What is the computer literacy level of secondary school teachers in Danko-Wasa Local Government Area Secondary Schools?

Table-1: The Level of Computer Literacy of Teachers.

Computer Literacy of Teachers	Mean value	Level
Accessibility to computer/internet	3.21	Good
Basic knowledge of computer	3.34	Good
Skills of operating computer	3.22	Good
Attitude towards using digital devices	3.28	Good
Overall mean	**3.26**	**Good**

The independent variables in the study were four constructs that define computer literacy, namely; accessibility to computer/internet (AC), basic knowledge of computer (BKC), Skills of operating computer (SOC), and Attitude towards using digital devices AUDD). Table 1 presents the mean values of the four areas of computer literacy. The mean score ranges from 3.21 to 3.34. The domain with highest mean value was Basic knowledge of computer (mean= 3.34), flowed by Attitude towards using digital devices (mean = 3.28), then, Skills of operating computer (mean = 3.22). The construct with the least mean value was Accessibility to computer/internet (mean = 3.21).

On the whole, mean score of computer literacy was 3.26, which on the scale used corresponded to "agree" and hence a good overall self- rating of the respondents on computer literacy. This implies that the level of computer literacy of teachers was high. This finding contradicts the findings of [5] who found a low level of computer literacy among teachers and that of , [7] who discovered that that there is low level of computer literacy among teachers in Ahoada East local Government Area of Rivers State. This contradiction could be attributed to some advancement in technology and geographical differences of the study areas. However, this finding is in line with the finding of [8]

that the computer literacy level among secondary school teachers in Rivers State is higher than the computer illiterate teachers.

Research Question 2: What is the level of teachers' job performance in Danko-Wasagu Local Government Area Secondary Schools?

Table-2: The Level of Teacher Performance.

Teacher Job Performance	Mean Value	Level
Lesson plan preparation	3.46	Good
Teaching	3.43	Good
Assessing students	3.43	Good
Student quality	3.30	Good
Overall Mean	**3.41**	Good

The dependent variable was divided into aspects namely; lesson plan preparation, teaching, assessing the students and student quality. The items on each aspect were scaled using the four-point Likert scale ranging from a minimum of 1 for the worst case scenario (strongly disagree) to a maximum of 4, which is the best case scenario (Strongly agree). Table 2 shows the mean value of the four constructs of teacher performance. The mean values ranged from 3.30 to 3.46. This shows that, the highest level of teacher performance was lesson plan preparation (mean = 3.46). Two constructs of teacher performance namely team teaching and assessing students obtained the same level of performance (mean = 3.43). The domain that least performed by teachers was student quality (mean = 3.30). This therefore, implies that teachers, in actual situation, were performing highly all the four aspects of performance. The overall mean score of teacher performance was 3.41, which on the scale used corresponded to "agree" and hence a good overall self-rating of the respondents on teacher performance. This is therefore; an indication that the level of teacher performance is also high. This finding is in agreement with the finding of [15] that teachers' job effectiveness was high.

Research Question 3: Is there significant relationship between computer literacy and teacher's performance?

Research Hypothesis: There is a significant relationship between computer literacy and teacher job performance among secondary schools teachers in Danko-Wasagu Local Government Area.

Correlation between each type of leadership style and teacher effectiveness

The correlation between each construct of computer literacy teacher performance revealed that teacher performance was significant, positive and very strong correlated with basic knowledge of computer (r = 0.735; p<0.01). In addition, it was substantial to very strong correlated with Attitude towards using digital devices (r = 0.673; p<0.01) and Skills of operating computer (r = 0.542; p<0.01). Finally, teacher performance was moderate to substantial correlated with accessibility to computer/internet (r = 0.363; p<0.01). This implies that, to a great extent, an increase in the basic knowledge of computer is associated with an increase in the level of teacher performance; and to a substantial to very strong extent, an improvement in Attitude towards using digital devices and Skills of operating computer is associated with an increase in the teacher performance. However, accessibility to computer/internet had the weakest association with teacher performance. Thus, study revealed the existence of a strong positive relationship between each of the three out of four domains of computer literacy computer literacy and teachers' job performance, while the fourth domain, accessibility to computer/internet had the weakest association with teacher performance. In summary, there is significant positive relationship between computer literacy and teachers' performance. This is supported by the work of [5] who also found that significant relationship existed between teacher computer' literacy and job effectiveness. The finding also agrees with that of [16] that a high positive significant relationship exists between computer literacy and teachers' effectiveness in secondary schools. Similarly, it is in line with the finding by [19] which indicates the existence of a significant relationship between computer literacy and teacher job effectiveness.

Research Question 4: Does computer literacy influence Teachers performance in Danko-Wasagu Local Government Area Secondary Schools?

Table- 3: Regression Analyses

	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std Error	Beta		
Constant	15.679	1.437		10.912	.000
BKC	.886	.067	.701	4.017	.000
AUDD	.792	.057	.651	3.621	.001
SOC	.675	.054	.631	2.445	.000
Dependent Variable: Teachers' Performance					
Independent Variables: BKC, AUDD and SOC					

Source: Researcher's Computation from Primary Data (2018)

To discover the considerable predictor for teacher performance a Stepwise regression and analysis was carried out. In this analysis, the four of aspects of computer literacy were treated as predictor variables, whereas teacher performance was treated as the dependent variable. Table 3 presents a summary of the findings on the influence of computer literacy on teacher performance in secondary schools. Using the standardized coefficients, the coefficient for basic knowledge of computer (PU) (β=0.701, t=4.017 and Sig. =0.000). The coefficient is positive and the significance level (Sig. =0.000) is less than 0.05 implying that basic knowledge of computer has a significant positive relation with academic performance of science students. The coefficient also implies basic knowledge of computer influences teacher performance in secondary schools by 70.1%.

Furthermore, the standardized coefficient for attitude towards using digital devices (β=0.651, t=3.621 and Sig. =0.001). The coefficient is positive while the significance value is also less than 0.05; we therefore observe that attitude towards using digital devices has a significant relationship with academic performance of science student. The coefficient β=0.651 implies that attitude towards using digital devices accounts for 65.1% of the variation in job performance of teachers.

Also, the findings indicate that skills of operating computer has a significant influence on teacher performance (β=0.631, t=2.445 and Sig. =0.000). The coefficient β=0.541 implies that skills of operating computer accounts for 63.1% of the variation in teacher performance in secondary schools. This means; that basic knowledge of computer has a significant positive influence on teacher performance. The coefficient also implies that basic knowledge of computer is a positive predictor of teacher performance by 70.1%; that attitude towards using digital devices has a significant influence on teacher performance with a coefficient of β=0.651, implying that attitude towards using digital devices accounts for 65.1% of the variation in teachers' performance; and that The coefficient β=0.631 implies that skills of operating computer accounts for 63.1% of the variation in teacher performance, hence a positive predictor of teacher performance. Table 3 therefore, tells that the three constructs of computer literacy namely; basic knowledge of computer, attitude towards using digital devices and skills of operating computer are important predictors of teacher performance.

The above excerpt indicates that overall, there is a very strong impact of computer literacy on teacher performance in secondary schools in Danko-Wasagu Local Government. This finding agrees with that of [17] who revealed that computer literacy by teachers will enhance computer aided instruction, and that computer literacy will aid the teachers during teaching-learning processes, and thus enhance teacher's effectiveness in the schools. Therefore if computer literacy of teachers is improved, their job performance would most likely increase. However, the finding disagrees with that of [8] who revealed that the impact of computer literacy among secondary school teachers in Rivers State is very low. This could be attributed to the difference in methodologies employed by the two studies in their investigation, or the biasness of respondents in answering the questions.

CONCLUSION/ RECOMMENDATIONS

This study aimed at investigating the influence of computer literacy on teachers' performance in Dank-Wasagu local government area of Kebbi State, Nigeria. The level of computer literacy of teachers was high (mean = 3.26). Teacher job performance was also high (3.41). The correlation reveals that there is a significant relationship between teacher computer' literacy and job performance in Dank-Wasagu Local Government Area secondary schools. This means that increase in computer literacy increases teachers performance. Regression reveals that three aspects of computer literacy; Instructional basic knowledge of computer , attitudes towards using digital devices and skills of operating computer positively predict the teachers performance, implying that computer literacy has a positive impact on teacher performance. As the technology can never be taken away from humans, it should therefore, be used to enhance the standard of human living through the provision of quality education. The utmost target of a computer knowledgeable school instructor is to be able to learn and apply new computer programmes/applications in instructional activities. Computer literacy gives teachers of all ages an edge in both their careers and education. Teachers' ability to use computer application packages such as Microsoft word, Microsoft PowerPoint and others would in no small measure enhance their job effectiveness [5]. Based on these, this study made recommendations as follows:

In this study, basic knowledge of computer, attitudes towards using digital devices and skills of operating computers were found to have high agreement level. This might be due to regular use of cell phones by the teachers; positive attitudes they have towards using digital devices; and basic skills of operating computers possessed by the teachers. However, access to computers/internet by teachers was found to be limited, possibly due to lack of adequate computer/internet facilities in the schools and at home. Therefore, there should be emphasis on the provision of adequate computer/internet facilities at least in the schools for regular access by the teachers, which will enable them, improve in their job performance. Also, the aspects of basic knowledge of computer, attitudes towards using digital devices and skills of operating

computers of teachers should be promoted thereby enhancing their job performance. Teachers' performance in this study was found to be high. This is so because their level of computer literacy was also high. Similarly, the finding that computer literacy of teachers is a significant positive predictor suggests that it is an important factor of teachers' performance. Therefore, the study recommends that computer literacy should be promoted among teachers in secondary schools. Emphasis should be laid on computer education through workshops, seminars and conferences for teachers on the use of modern computer application packages. The government should pay more attention to teachers' computer literacy by making computer education compulsory for all teachers of secondary schools and incorporated into teacher training schools' curriculum with emphasis on practical aspects.

REFERENCES

1. Jay, A. (2014). *The Prinicipals' Leadership Style And Teachers Performance In Secondary Schools Of Gambella Regional State* (Doctoral dissertation, Jimma University).
2. Adepoju, T. L. (1996). The factors militating against effective planning and implementation of educational policies in Nigeria. *A paper*.
3. Aitokhuehi, J. O., & Ojogho, J. (2014). The impact of computer literacy on students' academic performance in senior secondary schools in Esan West Local Government Area, Edo State, Nigeria. *Journal of Education and Human Development*, *3*(3), 265-270.
4. Akinyemi, A. (1993). Job satisfaction among teachers in Ondo state secondary schools', J. *Educ, Leadership*, *29*, 10-22.
5. Alabi, A. T., & Yisa, H. M. (2013). Computer literacy and teacher job effectiveness among secondary school teachers in Ilorin South Local Government Area, Kwara State, Nigeria. In *Nigeria Educational Forum, A Journal of the Institute of Education, Ahmadu Bello University* (Vol. 21, No. 1, pp. 63-72).
6. DIDI, K., & WONU, N. (2010). Assessment of teachers' computer literacy level for computer studies curriculum implementation in Gokana Local Government Area. *VOCATIONAL EDUCATION*, 15.
7. Jack, C. G. (2010): Assessment of Computer Literacy Level in Ahoada East LGA of Rivers State, (A B.Sc. Project) of Rivers State College of Education, Port Harcourt.
8. Michael, C. P. & Igenewari, L. S. (2018): The Impact of Computer Literacy among Secondary School Teachers in Rivers State. *International Journal of Education and Evaluation ISSN 2489-0073 Vol. 4 No. 1*
9. Nwafor, S. C. (2015).Assessment of Teachers Use of ICT for Secondary Schools Computer Studies Curriculum Implementation in Rivers State. (Unpublished B.Sc. Project) of Ignatius Ajuru University of Education, Port Harcourt.
10. Ozigi, S. (2007). Influence of computer on teachers effectiveness in secondary schools. *Unpublished M. Ed. Project, University of Ilorin, Ilorin.*.
11. Obilade, S. O. (1999). Leadership qualities and styles as they relate to instructional productivity. *The Manager Ibadan: Department of Educational Management, University of Ibadan*, 25-32..
12. Okeniyi, C. M. (1995). Relationship between leadership problems and school performance in Oyo State secondary schools. *Unpublished. M. ed. Thesis University of Ibadan*, 57-82.
13. Omolayo, B. (2000). Psychology of Human Being at Work (An Introduction) Ado–Ekiti: Crown House Publication..
14. Robert, H., & Tim, H. (1998). Essential manager's manual. *Darling Kindersley Ltd, London*, *2*.
15. Sirisookslip, S., Ariratana, W., & Ngang, T. K. (2015). The impact of leadership styles of school administrators on affecting teacher effectiveness. *Procedia-Social and Behavioral Sciences*, *186*, 1031-1037.
16. Ogundele, M. O., & Etejere, P. A. O. (2013). Computer Literacy and Secondary School Teachers' Job Effectiveness in Kwara State. *African Journal of Teacher Education*, *3*(1).
17. Sofoluwe, S.A. (2007). Information and communication technology and administrative effectiveness of Nigeria universities. *International Journal of Educational Management, 2(3), 43-56.*
18. Fashiku, C. O. (2007). Management of information system, decision making process and academic goal achievement of Kwara State tertiary institutions. *Unpublished Ph. D. thesis, University of Ilorin.*
19. Akinnubi, O. P., Sule, A. O., & Yisa, H. M. (2012). Computer Literacy and Teacher Job Effectiveness in Kwara State Secondary Schools. *Academic Research International*, *2*(3), 329.
20. Zonal Education Office, Zuru (2018). Kebbi State Ministry of Education.