



ISSN (P): 2616-9738
ISSN (E): 2616-9746

UMT Education Review (UER)

Volume No.2, Issue No. 2, Fall 2019

ISSN_(P): 2616-9738 ISSN_(E): 2616-9746

Journal DOI: <https://doi.org/10.32350/uer>

Issue DOI: <https://doi.org/10.32350/uer.22>

Homepage: <https://ssh.umt.edu.pk/uer/home.aspx>

Journal QR Code:



Article:

Does Information Technology Experience Matter? A Case of Secondary Schools of Kaduna State Nigeria

Author(s):

Harun Abubakar

Online Published:

Fall 2019

Article DOI:

<https://doi.org/10.32350/uer.22.03>

Article QR Code:



Haroon Abubakar

To cite this article:

Abubakar, H. (2019). Does information technology experience matter? A case of secondary schools of Kaduna state Nigeria. *UMT Education Review*, 2(2), 47–71.

[Crossref](#)



NUMBER OF REFERENCES

74



NUMBER OF FIGURES

00



NUMBER OF TABLES

07



A publication of the
Department of Education, School of Social Sciences and Humanities,
University of Management and Technology, Lahore, Pakistan.

Does Information Technology Experience Matter? The Case of Secondary Schools of Kaduna State, Nigeria

Harun Abubakar^{1*}

Abstract

The research was conducted using a survey research design following the guidelines of Research Advisor (2007). The study examined the school principals' perceptions about satisfaction and dissatisfaction with teacher performance regarding student development. Student development was dealt with as a comprehensive construct implying teacher efforts for academic achievement and personality development of students. The respondents comprised 300 principals of senior secondary schools in Kaduna State. Questionnaire was used as the instrument for data collection. The data collected were analyzed using simple frequencies and by calculating the mean and standard deviation. One Way Analysis of Variance (ANOVA) was applied to test the research hypotheses. All null hypotheses were rejected and research hypotheses were accepted concluding that there were significant differences between the perceptions of principals regarding teacher performance. The most interesting results were about teachers' experience; principals expressed more satisfaction with highly experienced (more than 10 years) and less experienced teachers (less than 5 years) as compared to the middle group (5-10 years). These findings initiate a serious debate about whether or not teacher experience matters. Whereas the stakeholders of secondary school education are baptized upon to guarantee that senior teachers are better performers and most eligible for leadership roles, the findings suggest that young teachers can also impress their principals by their performance and are equally eligible for leadership roles to work for holistic student development.

Keywords: IT experience, principals' satisfaction, secondary school principals, teachers' performance

¹Federal College of Education Zaria, Kaduna, Nigeria

*Corresponding email: harunshika@gmail.com

Introduction

1.1 The Concept of Teacher

Professionally, a teacher is a person trained, recognized and employed to help learning in and outside classroom situation in order to achieve the predetermined goal(s). Since the evolution of human society, teachers have been considered the single most important element that determines the future of the society. Adeniji (2002) proposed that the term teacher is often used to refer to anybody who imparts information or knowledge or merely instructs others. In a formal school set up, the word ‘teacher’ refers to a person who imparts knowledge through planned instruction to pupil(s), which brings a permanent change in student behavior. Therefore, the people responsible for delivering knowledge, who will realize the stated goals and objectives, must possess some qualities that enable them to achieve the stated aims, not just at school level but at the level of society at large as well.

The teacher is the most important person in the social structure known as a school. S/he is an expert who undertakes the government’s educational, instructional and related administrative duties (Erden & Erden, 2007; Poisson, Gelb, Oh & Gruppen, 2009). Teachers are recognized as the most important element needed to achieve the aims of the school. In this regard, they are school management’s secret heroes, the real possessors of the educational product and the key to students’ success (Yuksel & Hotaman, 2009). The success of the educational system is directly linked with the success of the teachers who put it into action and dictate the system; who undertake the duty to educate young generations who will carry the country into the future (Ayodele, & Ige, 2012; Ewetan & Ewetan, 2015).

The teacher serves as the engine that moves the society out of illiteracy, crime, poverty, disease, backwardness and stagnation. Teachers, all over the world, are considered the major instrument for character development, intellectual development and nation-building. They are also seen as facilitators of holistic human development. The teacher is the most indispensable of the factors involved in the effective administration of schools and any other activity challenging students to learn, practice, and

develop in or beyond the classroom (Rockoff, [2004](#)). Nigerian educational law provides that “No person shall teach in any school unless his name has been placed on the register of teachers or after his name has been removed from such register.” As of now, one is legally distinguished as a teacher if his / her name is in the register of the Teachers Registration Council and s/he ceases to be a teacher once his / her name is deleted from the register (Yusuf & Dada, [2016](#)).

Teachers are the backbone of school excellence and they are expected to play an effective role in developing human capital to serve the nation. The majority of education policy considerations regard teachers as the key persons responsible to teach children to meet the expectations of school, parents and society. A teacher’s work does not stop within the four walls of the classroom; however, teachers’ incompetence can hinder development (Unal & Unal, [2012](#)). Therefore, quality teachers are always in high demand by all school administrators. Principals are required to constantly supervise teachers as they plan their lessons, take assessments, and plan activities for student achievement and development. Since principals are the internal stakeholders of the school, therefore, they constitute the best source to gather knowledge about the performance of teachers and whether or not it is up to the stated government standards (Wilkerson & Lang, [2011](#); Aitken & Harford, [2011](#)).

A good teacher is someone who is always willing to learn something new so that s/he can expand his / her knowledge in order to teach effectively and can also assist the students to learn for better achievement (Agba, Ikoh & Ashibi, [2010](#); Unal & Unal, [2012](#)). It may not be proven that students’ problems arise because of teachers’ age or experience and these may not be significant determinant of incivilities (Raheem, Muinat, & Collins, [2015](#); Rockoff, [2004](#)). The capability to convey knowledge contributes meaningfully in students’ accomplishments and it is the work of experienced teachers (Raheem et al., [2015](#); Alufohai & Ibhafidon, [2015](#)). Another dimension of teachers’ knowledge, qualification and performance is familiarity with the information and communication technology (ICT) in the classroom to make students digital citizens of the future (Sargent & Casey, [2018](#); Sternberg, Kaplan & Borck, [2007](#)).

Although the performance of students largely depends on the teachers' ability to impart knowledge, it also has to bear with some variables such as experience (Solomon, [2011](#)). Teacher experience is one of the most significant variables that affect student performance as teachers develop their pedagogic style (Ibe & Maduabum; Mckenzie, [2003](#)). Poor performance of students is considered to be an outcome of incompetency or lack of commitment of school teachers (Van Den Ouweland, [2019](#); Yariv, [2011](#)). However, this indicates that there is a need to find out what really causes incompetency and what is the main cause of poor performance of teachers? Whether it is inexperience only or other factors are also involved.

1.2 Teachers' Experience and Performance

John Dewey and his followers have expressed a genuine interest in teacher performance while stressing the need of analyzing teaching and learning activities which add to everyday experience of teachers and become a part of their knowledge (Callaghan & Corbit, [2015](#); Dewey, [2008 a](#), [2008 b](#); Vygotsky, [1935](#)). Thus, experience here qualifies for expansion in learning and the capability of understanding and reflecting on both the object and subject of this learning. For Dewey, experience signifies a useful business that both constitutes and transforms subjects and their surroundings in the sequence of applied activity (Garrison, [2001](#)). The term business means that partaking terms such as environment and acting subject cannot be self-sufficiently specified, as each is the part of the other (Dewey & Bentley, [1999](#)). Teachers' experience will definitely boost student performance in education as shown in the diagram below (Schmidt, [2010](#)).

Studies reveal that variables such as age and teaching experience have a certain influence on teacher effectiveness. Ünal and Ünal ([2012](#)) found that older teachers (age 45 years or more) are more active in teaching and better in classroom management skills as compared to younger teachers in high school; the more you teach, the more you acquire skills and bring improvement in the methodology of teaching. This view is buttressed by Aloka and Bojuwoye ([2013](#)) and they found that newly appointed teachers regularly end up making additional risky decisions and do not examine the background carefully when dealing with students' disciplinary snags due

to the lack of experience, irresponsibility and immaturity as compared to older teachers.

Putman (2012) confirmed that the more years of teaching experience teachers have, the more advanced is the level of their self-efficacies to involve students and manage the classroom. However, other researchers (Haq & Akhtar, 2013) found that years of teaching experience could affect teacher efficiency negatively as they can become less interested owing to many years in the service and fatigue. Robinson, Lloyd and Rowe (2008, p. 670) observed, “The teacher initiates a set of activities in which his pupils take part so that the result is the acquisition of a set of skills that will become permanent in the pupils by means of regular practice”.

According to the National Policy on Education 2004, on completion of teacher education or training the student-teacher is expected to be the loyal citizen of the state, a person of high moral standards and integrity, as well as a knowledgeable, progressive and effective teacher who can inspire pupils and challenge them to learn. By using cross-sectional and longitudinal datasets, a number of studies have examined how teachers’ performance, as measured by their students’ achievement on standardized tests, changes over the course of their career (Hanushek, 2016).

Teachers’ characteristics such as years of teaching experience have been examined to regulate its effects on students’ learning consequences. However, teachers’ experience is a topic of concern for policymakers. Greenwald, Hedges and Laine (1996) found in their meta-analytical research that teachers’ work experience has optimistic and substantial effects on student success (Zhaung, 2018). Similarly, Hawkin and Dossey (1998) provided evidence that though teaching involvement seems to be linked to student progress, the connection may not be linear; pupils whose instructors had less than five years of experience demonstrated lesser academic achievement. However, little academic achievement was observed in students whose teachers had more than five years of experience of teaching a particular subject (Tella, 2017).

Teachers help to put a positive influence on students’ academic achievement and play a crucial role in educational pursuance of students (Akiri & Ugborugbo, 2009; Ibe & Maduabum, 2001). The teacher influences the intellectual development of his / her students and uses

various assessment techniques and teaching styles to improve their performance in school subjects which helps in measuring students' progress. Witkow (2009) viewed academic performance as how students deal with their duties and homework and how they can cope with or accomplish different tasks given to them by their teachers. This means that academic performance is the ability to study and remember facts and be able to communicate them effectively (Muasya, Njuguna, & Ogola, 2017).

Teachers have a significant influence on students' academic achievements; however, other factors such as socioeconomic background, family support, aptitude, the personality of student, self-confidence, and the interest of students also determine their success in academic performance. Nevertheless, teachers' age and years of work experience have a significant role in enhancing students' academic performance (Onyekuru & Ibegbunam, 2013; Unal & Unal, 2012).

1.3 Effect of IT and non-IT Trained Teachers

Researchers have argued that the information and communication technology (ICT) has become a parameter of teacher performance in the 21st century (Inan, & Lowther, 2010; Mumtaz, 2000; Uabeng, 2012). Each government is trying to make an instructional technology base in schools, especially for science education at secondary level and Nigeria is no exception (Oyelekan & Omiwale, 2017; Yara & Wanjohi, 2011). However, marked levels of resistance have been observed from teachers in adopting technology in instruction (Çoklar & Yurdakul, 2017); although sufficient evidence is not available to prove that ICT integration will affect teacher performance (Abidoeye, 2019; Lim & Chai, 2008; Lowther et al., 2008). Many researchers claim that the lack of interest in ICT integration is linked with teachers' age and other dispositional and attitudinal factors (Aloka & Bojuwoye, 2013; Alufohai & Ibhafidon, 2015; Van Braak, Tondeur & Valcke, 2004). Inan and Lowther (2010) reported that years of teaching can influence technology's use both directly and indirectly; Peralta and Costa (2007) discussed that teachers' competency regarding ICT integration may influence their performance, although pedagogical and didactic competencies also play a significant role in the implementation of effective educational and instructional interventions enhancing teachers' performance (Shapley, Sheehan, Maloney &

Caranikas-Walker, [2010](#)). Hence, it is important to judge teachers' performance based on their training of ICT from the school principals' perspective.

Several attempts have been made by previous governments and other stakeholders in education to achieve the formulated objectives of teaching, which have not yielded positive results particularly in secondary schools in Kaduna State. It is assumed that the result of the current study can be applied to other secondary school teachers in Kaduna State and this experience will help immensely in improving the teaching and learning cycle in Kaduna state. The findings of the study are expected to guide the government to revise its teacher recruitment policy. It is also expected to provide an insight into the sustainability and effectiveness of teachers. The results of the study will also help policymakers and educationists to identify some other problems in order to boost both teachers' and students' performance.

1.4 Statement of the Problem

Previous research highlights that there has been a paradigm shift in accounting for teacher performance; it is no more traditional and teachers are not awarded anymore for their experience but their overall competence to manage classrooms, design and deliver lessons, indulge in holistic personality development activities and, above all, the use of information technologies (ICTs). Therefore, this research aims to challenge the traditional concepts of Nigerian education system; whether experience still matters for school principals or are they looking for other competencies as well. Therefore, this research aims to find out whether or not secondary school principals' perceptions differ about teacher performance with respect to their qualification, experience and other demographic factors.

1.5 Objectives of the Study

The following are the objectives of the current study.

1. To find out the difference (if any) gender plays in affecting teachers' performance in public secondary schools of Kaduna state.

2. To measure the difference (if any) in the way teachers' qualification affects their performance in public secondary schools of Kaduna state.
3. To calculate the difference (if any) in the way teachers' experience affects their performance in public secondary schools of Kaduna state.

1.6 Hypotheses

The research tests the following null hypotheses.

1. There is no statistically significant difference between the opinions of principals about the performance of teachers with respect to their gender.
2. There is no statistically significant difference between the opinions of principals about the performance of teachers with respect to their qualification.
3. There is no statistically significant difference between the opinions of principals about the performance of teachers with respect to their experience.

2. Methodology

Descriptive research design was used in this study. The design was considered appropriate because it helps to check the relationship among different research variables. Kaduna is one of the educational centers of Nigeria with many international schools and institutions for tertiary and higher education. Kaduna State comprises 23 administrative areas or local government bodies. The population of the research comprised senior administration including principals, vice-principals, senior masters and supervisors of senior secondary schools in Kaduna State. Data was collected randomly from 300 participants. The following are the inclusion and exclusion criteria.

Inclusion Criterion

Must be a licensed teacher and practitioner of Kaduna State.

Must have both teaching and administrative experience.

Exclusion Criterion

Any teacher /administrator with less than one year of experience was excluded.

All candidates fulfilling the criteria were approached to participate in the research; participation was voluntary. 350 candidates agreed to participate. 336 questionnaires were returned; out of which only 300 were considered useful for the study and were processed for final results. Detailed demography is presented below in Table 1.

A self-constructed questionnaire was used for this study. The items were based on in-depth literature review (Agba et al., [2010](#); Abubakar, [2012](#); Alimi et al., [2015](#); Gyan, Korang, McCharthy & McCarthy, [2015](#)); they were reviewed by 5 experts for content validity and by 10 colleagues for face validity. The selected items were then piloted with 30 school principals; the reliability coefficient, that is, Cronbach's Alpha was found to be 0.82. After calculating the results of the pilot study, the data was collected.

The final questionnaire comprised 28 items; 5 items were related to demographic variables, 7 items were related to teachers' performance to enhance academic achievement of students, another 7 items were related to enhance holistic personality development of students related to self-efficacy, moral and character development, 5 items were related to measuring satisfaction with performance and 4 items were about dissatisfaction with teachers' performance.

3. Results and Analysis

Simple frequencies, mean and standard deviation were used to describe the demography of the participants. Independent sample t-test and One-way ANOVA were conducted to test research hypotheses.

The table 1 shows that 17% (51) respondents were male and 83% (249) were female. More than 11% respondents were IT trained and 88% respondents were not IT trained. According to the rank of the respondents, 25% were coordinators, more than 30% were senior teachers, more than 10% were principals and 18% were vice-principals. However, more than 15% were supervisors.

The table 1 also shows that 32% respondents had less than 5 years of experience, 35% had the experience of 5-10 years and more than 33% respondents had more than 10 years of experience.

Table 1

Demography

No. Teacher	F	%	M	Mode	SD
1. Gender					
Male	51	17.0	1.68	2	.451
Female	249	83.0			
2. Qualification					
IT Trained	35	12.0	2.49	2	.919
Non-IT Trained	265	88.0	2.43		1.096
3. Rank					
Coordinators	75	25.0	2.81	2	10.9
Senior teachers	91	30.0			11.3
Principals	32	11.0			11.8
Vice-Principals	55	18.0			11.5
Supervisors	47	16.0			11.4
4. Experience					
>5	95	32.0	3.2341	2	.72168
5-10	105	35.0	3.5034		.60543
<10	100	34.0	3.4152		.81973

3.1 Hypotheses Testing

Hypothesis related to the measurement of statistically significant difference between the opinions of principals about the performance of teachers with respect to their gender was tested by conducting independent sample t-test. The results are displayed below in Table 2.

The results depicted in Table 2 demonstrate that there is no statistically significant difference between the opinions of principals about the performance of teachers with respect to their gender. Both males and female teachers perform to the same standard in the eyes of their senior supervisors.

The hypothesis related to the measurement of statistically significant difference between the opinions of principals about the performance of

teachers with respect to their qualification was tested by conducting independent sample t-test. The results are displayed below in Table 3.

Table 2

Independent Sample T-Test to Measure the Performance of Teachers with Respect to their Gender

Gender	t-test for Equality of Means				95% Confidence Interval of the Difference		Levene's Test for the Equality of Variances	
	N	df	MD	SE	Lower	Upper	F	Sig.
Male	51	50	.282	.134	.018	.545	12.489	.080
Female	249	248	.282	.137	.012	.551		

Table 3

Independent Sample T-Test to Measure Difference in the Performance of Teachers with Respect to their Qualification

Qualification	t-test for Equality of Means				95% Confidence Interval of the Difference		Levene's Test for the Equality of Variances	
	N	f	D	SE	Lower	Upper	F	Sig.
IT Trained	35	4	.14	.140	.051	.730	20.187	.000
Non-IT	223	222	.134	.182	.101	.680		

The results displayed in Table 3 demonstrate that there is a statistically significant difference between the opinions of principals about the performance of teachers with respect to their IT qualification. Teachers trained in IT have higher mean values than non-IT trained teachers as shown in the above table.

3.2 One-way Analyses of Variance (ANOVA) for Principals' Perceptions of Teachers' Performance Regarding Experience

Table 4

One-way Analyses of Variance (ANOVA) for Satisfaction with Teachers' Performance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.396	2	1.198	2.298	.002
Within Groups	147.033	282	.521		
Total	149.429	284			

Table 5

Post-HOC Comparisons of Satisfaction with Teachers' Performance

Experience	ANOVA			Tukey's HSD Comparisons		
	n	Mean	SD	>5	5-10	<5
>5	94	1.7473	.72168	.005		
5-10	94	1.6622	.60543	< .001	< .001	Exp<10 ≤ Exp>5
<10	97	1.8840	.81973	< .001	< .001	< .032 Exp>5≤ Exp 5-10
Total	285	1.7658	.72537			

Shared subscripts represent statistically significant differences: a = $p < .05$, b = $p < .01$, c = $p < .001$

One-way ANOVA was conducted to determine principals' level of satisfaction with the performance of their teachers with respect to teachers' experience. The differentiated effect of satisfaction was calculated by applying Post Hoc Test. ANOVA results indicated that a significant difference between the means of different groups ($M = 68.551$, $p \geq .002$) exists.

However, Post HOC test revealed that the maximum satisfaction level was achieved by teachers with more than 10 years of experience ($M = 1.8840$) which is higher than teachers with less than 5 years of experience ($M = 1.7473$); whereas the minimum level of satisfaction was achieved by teachers with 5-10 years of experience ($M = 1.6622$).

Table 6
One-way Analyses of Variance (ANOVA) for Dissatisfaction with Teachers' Performance

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3.309	2	3.174	4.090	.044
Within Groups	204.905	264	3.178		
Total	208.214	266			

Table 7
Post-HOC Comparisons of Dissatisfaction with Teachers' Performance

Experience	ANOVA			Tukey's HSD Comparisons		
	n	Mean	SD	>5	5-10	<5
>5	88	3.2341	.88524	.005		
5-10	92	3.5034	.82285	< .001	< .001	Exp<10 ≤ Exp>5
<10	87	3.4152	.92878	< .001	< .001	< .004 Exp>5≤ Exp 5-10
Total	267	3.3843	.88474			

Shared subscripts represent statistically significant differences: a = $p < .05$, b = $p < .01$, c = $p < .001$

One-way ANOVA was conducted to determine the principals' level of dissatisfaction with the performance of their teachers with respect to teachers' experience. The differentiated effect of dissatisfaction was calculated by applying Post Hoc Test. ANOVA results indicated that a significant difference between the means of different groups ($M = 68.551$, $p \geq .004$) exists.

Post HOC test revealed that the maximum dissatisfaction expressed by school principals was with teachers with 5-10 years of experience ($M = 3.5034$); next came the group of teachers with more than 10 years of experience ($M = 3.4152$). Teachers with less than 5 years of experience scored the lowest ($M = 3.2341$).

4. Conclusion

There was no statistically significant difference found between the opinions of principals about the performance of teachers with respect to their gender. IT trained teachers were considered better performers than non-IT trained teachers; although the number of IT trained teachers was comparatively small as compared to non-IT trained teachers (12% Vs 88%), yet these teachers were able to leave a significant impact. Much dramatic results were obtained regarding experience; school principals expressed more satisfaction with the performance of senior most (more than 10 years of experience) and junior most (less than 5 years' experience) teachers as compared to teachers with a medium range of experience (5-10 years). The research concludes that experience is not a valid yardstick to qualify teachers' performance and must not be used as a sole parameter of judgement.

5. Discussion

The majority of respondents were of the view that the experience of teachers does not play a central role in their performance, making the role of experience contentious in the evaluation of teachers' performance. Potter (1998) reported the findings of research on the relationship which teacher training and teaching experience has with the assessment of teachers' performance. Evidence from the study indicated that teaching experience is not a significant index of teaching effectiveness (Abubakar, 2012).

This position is debatable because experience is very much related to teacher quality, which in turn, is an important element in the teaching and learning process. Solomon (2011), for instance, posited that student achievement remains unaffected by the fact that whether classroom teachers have an advanced degree or not. However, the results of the current study deduced that ICT trained teachers are rated as better performers than non-ICT trained teachers. It means an additional qualification and/or competency in the latest pedagogical skills would render teachers more skillful than mere experience in teaching. This finding also highlights the importance of continuous professional

development of teachers to fulfill the pedagogic demands of the 21st century (Schinzinger & Laura, [2012](#)).

These findings are in line with those of Sivasakthi and Muthumanickam ([2012](#)). While assessing teacher effectiveness, they found that there was no important transition between teachers with less than 10 years, 10 to 20 years and above 20 years of teaching experience in terms of their effectiveness; henceforth, years of instructional experience does not define their teaching competence. Teacher competency has much more to do with teachers' self-efficacy beliefs (Hoy, Hoy & Davis, [2009](#); Tschannen-Moran & Hoy, [2007](#)). This is buttressed by other researchers (Kyriacou, [1991](#); Merç and Subaşı, [2015](#)) that teachers with several years of teaching experience find it difficult to deal with emerging issues in classroom management.

However, this research does not negate the value of senior teachers as many of them are knowledgeable, composed and emotionally stable. Owing to their skillful learning they may have developed a repertoire of pedagogical variation, which serves as a 'knowledge base' for many others to learn and follow. Although, seniority does mean an end to learning; hence they are strongly advised to continuously learn to upgrade themselves with the latest pedagogical skills and effectively integrate them in their day-to-day teaching for best teaching and learning consequences and for teaching digital natives, a product of internet generation (Arif, [2012](#)). Certainly, younger teachers are in need of experienced teachers for their mentoring and counseling to tread on the difficult path of teaching and learning.

Moreover, Martin and Smith ([1990](#)) conducted a study in Turkey and found that senior teachers were extra effective in communication, classroom organization, and competence. Hawkin and Dorsey ([1998](#)) endorsed that teaching experience appears to be correlated to student success, but the connection may not be linear and may involve several other factors as well, such as students' personal competence, home environment and family support or private tutoring (Howard & Mozejko, [2015](#)). Indeed, best are the teachers who have the zeal and pour their interest into their students while teaching with compassion (Arif, [2012](#); Clark, [2017](#)). The profession does not only require qualified and

experienced persons but a well-organized and committed workforce to foster valuable change in the society.

Last but not the least, each government and country has been trying to make an instructional technology base in schools, especially for science education at secondary level and Nigeria is no exception (Yusuf and Yusuf, [2005](#); [2009](#)). However, marked levels of resistance have been observed from teachers in adopting technology in instruction (Alimi & Popoola, [2015](#); Howard & Mozejko, [2015](#)). The current research further supports the conclusions of other researchers claiming that the lack of interest in ICT integration is linked with teachers' age and other dispositional and attitudinal factors (Van Braak et al., [2004](#); Inan, & Lowther, [2010](#); Howard & Mozejko, [2015](#); Olatunji, [2016](#)).

6. Implications

Experience does matter but not as much as managers and policy makers usually think. For school principal, competent teachers are not the ones having experience of many years in teaching and learning but those who are the masters of pedagogy; age and gender do not matter much. Young teachers with less than 5 years of experience tend to show more enthusiasm for learning and improvement in pedagogical skills. Teachers with more than 10 years of experience are self-accomplished in the art of pedagogy; however, teachers with 5-10 years' experience slow their pace of learning in life. What is the exact reason? Are they disappointed, tired and moving slowly towards burnout? Do they engross themselves in other aspects of life or a career path is lacking which keeps them motivated on the path of continuous learning and improvement? These are the critical questions which need to be addressed in future research. Moreover, any forthcoming research may study the compound effect of these demographic factors, that is, experience and qualification on performance.

Several attempts have been made by previous governments and other stakeholders in education to achieve the formulated objectives of teaching, which have not yielded positive results particularly in secondary schools in Kaduna State. It is assumed that the results of the current study can be applied to other secondary school teachers in Kaduna State and the experience will help immensely in improving the teaching and learning

cycle in Kaduna state. The findings of the current study are expected to guide the government to revise its teacher recruitment policy. It is also expected to provide an insight into the sustainability and effectiveness of teachers. The results of the study will also help policymakers and educationists to identify other problems and to solve them in order to boost both teachers' and students' performance.

References

- Abidoye, F. O. (2019). Influence of Teacher Characteristics on Achievement of Students in Biology in Osun State, Nigeria. *ATBU Journal of Science, Technology and Education*, 7(2), 255–261.
- Abubakar, H. (2012, October). Impact of Teacher Interactive Variables on Student Performance in Islamic Studies in Senior Secondary School in Kaduna State Nigeria. *World Applied Sciences Journal*, 31(6), 55–116.
- Adeniji, A. (2002). Teacher quality and quantity as correlates of secondary school students' academic performance in Ogun State, Nigeria. *Nigerian Journal of Guidance and Counselling*, 8(1), 98–111.
- Agba, A., Ikoh, I., & Ashibi, N. (2010). Teachers' leadership style, classroom variables and students' academic performance in Calabar metropolis, Nigeria. *Educational Research*, 1(6), 178–185.
- Aitken, R., & Harford, J. (2011). Induction needs of a group of teachers at different career stages in a school in the Republic of Ireland: Challenges and expectations. *Teaching and Teacher Education*, 27(2), 350–356.
- Akiri, A. A., & Ugborugbo, N. M. (2009). Teachers' effectiveness and students' academic performance in public schools in Delta state, Nigeria. *Kamla-Raj Stud Home Communication Science*, 3(2), 107–113.
- Alimi, I. A., & Popoola, J. J. (2015). The Growth and Impact of Information and Communication Technologies in Africa. *International Journal of Electronics and Electrical Engineering*, 3(1), 7–13.
- Aloka, P. J. O., & Bojuwoye. (2013). Gender, age and teaching experience differences in decision making behaviours of members of selected

- Kenyan Secondary school disciplinary panels. *Asian Social Sciences*, 9(10), 11–24.
- Alufohai, P. J. & Ibhafidon, H. E. (2015). Influence of teachers' age, marital status and gender on students' academic achievement. *Asian Journal of Educational Research*, 3(4), 60–66.
- Arif, S. (2012). The Best is Happiness. *Academic Research International*, 2(1), 557–567.
- Ayodele, J. B., & Ige, M. A. (2012). Teachers' utilization as correlate of students' academic performance in senior secondary schools in Ondo State, Nigeria. *European Journal of Educational Studies*, 4(2), 44–63.
- Callaghan, T., & Corbit, J. (2015). The development of symbolic representation. In L. S. Liben, U. Muller, & R. M. Lerner (Eds.), *Handbook of child psychology and developmental science: Cognitive processes* (p. 250-295). New York: John Wiley.
- Clark, R. E. (2017). The future of technology in educational psychology. In M. C. Wittrock & F. Farley (Eds.), *The Future of educational psychology* (pp. 91-106). London: Routledge.
- Çoklar, A. N., & Yurdakul, I. K. (2017). Technology integration experiences of teachers. *Discourse and Communication for Sustainable Education*, 8(1), 19–31.
- Dewey, J. (2008a). *Later works* (v. 10: Art as experience). Carbondale, IL: Southern Illinois University.
- Dewey, J. (2008b). *Later works* (v. 13). Carbondale, IL: Southern Illinois University.
- Dewey, J., & Bentley, A. F. (1999). Knowing and the known. In R. Handy & E. E. Hardwood, *Useful procedures of inquiry* (pp. 97–209). Great Barrington, MA: Behavioral Research Council.
- Erden, H., & Erden, A. (2007, May 3-5). Teachers' Perception in Relation to Principles' Technology Leadership: 5 Primary School Cases in Turkish Republic of Northern Cyprus. *Paper presented at the International Educational Technology (IETC) Conference*, Nicosia, Turkish Republic of Northern Cyprus.

- Ewetan, T. O., & Ewetan, O. O. (2015). Teachers' teaching experience and academic performance in mathematics and English language in public secondary schools in Ogun State, Nigeria. *International Journal of Humanities, Social Sciences and Education*, 2(2), 123–134.
- Garrison, J. (2001). An introduction to Dewey's theory of functional "trans-action": An alternative paradigm for activity theory. *Mind, Culture, and Activity*, 8(4), 275–296.
- Greenwald, R., Hedges, L. V., & Laine, R. D. (1996). The effect of school resources on student achievement. *Review of Educational Research*, 66(3), 361–396.
- Gyan, E., Baah, K.-K., McCarthy, P., & McCarthy, P. (2015). Causes of indiscipline and measures of improving discipline in senior secondary schools in Ghana: Case study of a senior secondary school in Sunyani. *Journal of Education and Practice*, 6(11), 19–25.
- Hanushek, E. A. (2016). What matters for student achievement? *Education Next*, 16(2), 18–26.
- Haq, M. U., & Akhtar, M. (2013). Do school level and years of teaching experience really matter? An investigation of Pakistani teachers' self-efficacy beliefs. *Middle-East Journal of Scientific Research*, 18 (7), 950–957.
- Hawkin & Dorsey (1998). The Impact of Subject Matter and Education coursework on Teaching Performance. *Journal on Teacher Education*, 55(1) 55–63.
- Hoy, A. W., Hoy, W. K., & Davis, H. A. (2009). Teachers' self-efficacy beliefs. In K. R. Wenzel & A. Wigfield (Eds.), *Educational psychology handbook series. Handbook of motivation at school* (pp. 627-653). NY: Routledge.
- Howard, S. K. & Mozejko, A. (2015). Teachers: Technology, change and resistance. In M. Henderson & G. Romeo (Eds.), *Teaching and Digital Technologies: Big Issues and Critical Questions* (pp. 307-317). Port Melbourne, Australia: Cambridge University Press.

- Ibe, B. O., & Maduabum, M. A. (2001). Teacher qualification and experience as correlates of secondary school students' achievement in biology. *Educational Thought*, 1(2), 176–183.
- Inan, F. A., & Lowther, D. L. (2010). Factors affecting technology integration in K-12 classrooms: A path model. *Educational Technology Research and Development*, 58(2), 137–154.
- Kyriacou, C. (1993). Research on the development of expertise in classroom teaching during initial training and the first year of teaching. *Educational Review*, 45(1), 79–87.
- Lim, C. P., & Chai, C. S. (2008). Teachers' pedagogical beliefs and their planning and conduct of computer mediated classroom lesson. *British Journal of Educational Technology*, 39(5), 807–828.
- Lowther, D. L., Inan, F. A., Strahl, J. D., & Ross, S. M. (2008). Does technology integration “work” when key barriers are removed? *Educational Media International*, 45(3), 189–206.
- Martin, K. J & Smith, L. R. (1990). Effects of teachers' age and gender on student perception. Educational Resources Information Centre (ERIC) U.S.A.
- Mckenzie, J. (2003). Pedagogy does matter. *Educational Technology Journal*, 13(1), 1–10.
- Merç, A., & Subaşı, G. (2015). Classroom management problems and coping strategies of Turkish student EFL teachers. *Turkish Online Journal of Qualitative Inquiry*, 6(1), 39–71.
- Muasya, P. M., Njuguna, W. F., & Ogola, M. (2017). The extent to which instructional leadership practices by head teachers contribute to students academic performance in Machakos County, Kenya. *Europeon Journal of Education Studies*, 5(2), 55–98.
- Mumtaz, S. (2000). Factors affecting teachers' use of information and communications technology: a review of the literature. *Journal of Information Technology for Teacher Education*, 9(3), 319–342.
- Olatunji, B. O. (2016). *Inadequate facilities of ICT equipment's in Nigerian secondary schools: Case study in Ado Odo Ota local*

government, Ogun State, Nigeria. Eastern Mediterranean University (EMU)-Doğu Akdeniz Üniversitesi (DAÜ).

- Onyekuru, B. U., & Ibegbunam, J. O. (2013). Teaching effectiveness of secondary school teachers in Emohua local government area of Rivers state, Nigeria. *European Scientific Journal*, 9(28), 44–61.
- Oyelekan, O. S., & Omiwale, J. B. (2017). Trends in Nigeria's science education within the global context. In Otulaja, Femi S., Ogunniyi, Meshach B. (Eds.), *The World of Science Education: Handbook of Research in Science Education in Sub-Saharan Africa* (pp. 43–64). New York: Brill Sense.
- Peralta, H., & Costata, F. A. (2007). Teachers' competence and confidence regarding the use of ICT. *Sísifo-Educational Sciences Journal*, 3, 75–84.
- Poisson, S. N., Gelb, D. J., Oh, M. F., & Gruppen, L. D. (2009). Experience may not be the best teacher: Patient logs do not correlate with clerkship performance. *Neurology*, 72(8), 699–704.
- Potter, E. L. (1998). The relationship of teacher training and teaching experience to assessment of teaching performance of community/junior college faculty. *The Journal of Educational Research*, 72(2), 81–85.
- Putman, S. M. (2012). Investigating teacher efficacy: Comparing preservice and in-service teachers with different levels of experience. *Action in Teacher Education*, 34(1), 26–40.
- Robinson, V. M., Lloyd, C. A., & Rowe, K. J. (2008). The impact of leadership on student outcomes: An analysis of the differential effects of leadership types. *Educational Administration Quarterly*, 44(5), 635–674.
- Raheem, Y. A., Muinat, B. B., & Collins, O. V. (2015). Teachers' characteristics as correlates of upper basic school students' performance in social studies in Yenagoa, Bayelsa State, Nigeria. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi*, 17(2), 325–346.

- Rockoff, J. E. (2004). The impact of individual teachers on student achievement: Evidence from panel data. *American Economic Review*, 94(2), 247–252.
- Sargent, J., & Casey, A. (2018). Exploring pedagogies of digital technology in physical education through appreciative inquiry. In Jeroen Koekoek & Ivo Hilvoorde (Eds.), *Digital Technology in Physical Education: Global Perspectives* (p. 69-85). New York: Routledge.
- Schinzinger, R., & Laura, P. A. (2012). *Conformal mapping: Methods and applications*. New York; Dover.
- Schmidt, M. (2010). Learning from teaching experience: Dewey's theory and preservice teachers' learning. *Journal of Research in Music Education*, 58(2), 131–146.
- Shapley, K., Sheehan, D., Maloney, C., & Caranikas, F.-W. (2010). Effects of technology immersion on teachers' growth in technology competency, ideology, 138 and practices. *Journal of Educational Computing Research*, 42(1), 1–33.
- Sivasakthi & Muthumanickam, R. (2012). A study on the teacher effectiveness of school teachers. *International Journal of Current Research*, 4(2), 222–226.
- Solomon, B. O. (2011). *Learners assessment of suitable of the NCC integrated science curriculum* (Ph. D. dissertation). University of Ilorin, Nigeria.
- Sternberg, B. J., Kaplan, K. A., & Borck, J. E. (2007). Enhancing adolescent literacy achievement through integration of technology in the classroom. *Reading Research Quarterly*, 42(3), 416–420.
- Tella, A. (2017). Teacher variables as predictors of academic achievement of primary school pupils' mathematics. *International Electronic Journal of Elementary Education*, 1(1), 16–33.
- Tschannen, M.-M., & Hoy, A. W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education*, 23(6), 944–956.

- Uabeng, C.-A. (2012). Factors influencing teachers' adoption and integration of information and communication technology into teaching: A review of the literature. *International Journal of Education and Development using ICT*, 8(1), 66–113.
- Ünal, Z., & Ünal, A. (2012). The impact of years of teaching experience on the classroom management approaches of elementary school teachers. *International Journal of Instruction*, 5(2), 11–31.
- Van Braak, J., Tondeur, J., & Valcke, M. (2004). Explaining different types of computer use among primary school teachers. *European Journal of Psychology of Education*, 19(4), 407–422.
- Vygotsky, L. S. (1935). Mental development of children and the process of learning. *Mental Development of Children during Education* (p. 20–32). Moscow-Leningrad: Uchpedgiz.
- Van Den Ouweland, L. (2019). *Assistance or resistance? How co-workers experience and address teacher underperformance*. Belgium: University of Antwerp.
- Wilkerson, J. R. & Lang, W. S. (2011). Standards-based teacher dispositions as necessary and measurable construct. *International Journal of Educational and Psychological Assessment*, 7(2), 34–55.
- Witkow, M. R. (2009). Academic achievement and adolescents' daily time use in the social and academic domains. *Journal of Research on Adolescence*, 19(1), 151–172.
- Yara, P. O. & Wanjohi, W. C. (2011). Performance determinants of Kenya certificate of secondary education (KCSE) in mathematics of secondary schools in Nyamaiya division, Kenya. *Asian Social Science*, 7(2), 107–112.
- Yariv, E. (2011). Deterioration in teachers' performance: Causes and some remedies. *World Journal of Education*, 1(1), 81–91.
- Yusuf, M. O. (2005). Information and communication technology and education: Analysing the Nigerian national policy for information technology. *International Education Journal*, 6(3), 316–321.

- Yusuf, M. O., & Yusuf, H. T. (2009). Educational reforms in Nigeria: The potentials of information and communication technology (ICT). *Educational Research and Review*, 4(5), 225–230.
- Yusuf, H. O., & Dada, A. A. (2016). The Impact of Teacher Qualification and Experience on the Performance of Students in College of Education in Kaduna State, Nigeria. *The Online Journal of Quality in Higher Education*, 3(2), 39–48.
- Yuksel, F.-S., & Hotaman, D. (2009). Vocational guidance aid in the orientation to teaching profession and teacher education. *European Journal of Social Sciences*, 10(1), 51–69.
- Zhaung, D. (2018). The effect of teacher education, level of teaching experience and teaching behaviors on standard science achievement (Graduate dissertations). Utha State University, Utha.