

TEACHERS' CITIZENSHIP BEHAVIOUR AS A PREDICTOR OF SECONDARY SCHOOL STUDENTS ACADEMIC PERFORMANCE IN SCIENCE SUBJECTS IN IGABI LOCAL GOVERNMENT AREA OF KADUNA STATE

BY

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Abstract

Teacher Citizenship behaviour is central to the foundation of every school setting. This study examined teachers' citizenship behaviour as a predictor of students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State. The study adopted a descriptive research design of correlation type with the target population comprised 15 principals 30 vice principals and 52 science teachers in the sampled schools. Purposive sampling technique was used to select 52 science teachers as participants for the study. Then, simple random sampling techniques was used to select 80 out 97 respondents using research advisor table of determining sample size. Appropriate data were collected for the study through the questionnaire tagged "Teachers' Citizenship Behaviour Questionnaire (TCBQ)". The findings of the study revealed that teachers' citizenship behaviour influences students' academic performance in science subjects in Igabi Local Government Area, Kaduna State. Based on the findings of the study, it was recommended among others that Developing and nurturing positive culture of professionalism in teaching science subjects through progressive, collaborative and instructional leadership should be demonstrated by the school teachers. Similarly, there is need for the government to organize trainings, workshops, seminars and conferences for the science teachers, school supervisors and principals on TCB to serve as a driving force for effective service delivery that will in turn enhance students' performance.

Keywords: Teacher, Citizenship behaviour, Science subject, Students, Academic performance

Introduction

The significance of science subjects cannot be over emphasized because, science is a systematic inventiveness that shapes and unify knowledge in the form of testable explanations and knowledge that can be rationally explained and reliably applied to everyday life. Science was introduced into the Nigeria educational system, treated as general science but was later broken down into three disciplines Biology, Chemistry and Physics. (Emmanuel & aondofa, 2018) these practices restricted to only higher classes with little or no room for those in the junior classes. However, the period from 1968 to 1970 witness a series of joints effort by science teachers' association of Nigeria (STAN) and comparative education studies and adoption centre (CESAC), to redesign science to meet the need of less science-oriented students and to be taught in junior secondary school classes hence the introduction of integrated science. (Emmanuel & Aondofa, 2018). According to national policy on education, the national education aims and objectives to which the philosophy of education is directed are;

1. The inculcation of national consciousness and national unity
2. The inculcation of right type of values and attributes for the survival of the individual and the Nigeria society
3. The training of the mind in the understanding of the world round
4. The acquisition of the appropriate skills abilities and competences both mental and physical as equipment for the individual to live in, and contribute to the development of the society. National Policy on Education

(2013). It is crystal cleared that the nation policy on education if well implemented will enable the nation attain equivalence with the leading nation of the world with regard to technological development as well as promote the spirit of self-reliance in Nigeria.

Science Subjects play very important role in scientific advancement that affects the lives of mankind. Despite its importance in the society, available statistics from the West African Examination Council (WAEC 2007-2016) on senior secondary school students' academic performance in three Major Science Subjects revealed fair performance at Senior School Certificate Examination as shown in Table 1;

Table 1: Academic Performance in three Major Science Subjects

Year	Total Entry	Biology Credit Passed (A1-C6)	% Pass	Total Entry	Chemistry Credit Passed (A1-C6)	% Pass	Total Entry	Physics Credit Passed (A1-C6)	% Pass
2007	1,238,163	413,211	33.37	424,747	196,063	46.16	409,449	180,797	44.16
2008	1,259,964	427,644	33.94	456,980	202,762	44.37	408,237	200,345	49.08
2009	1,259,964	453,928	33.87	456,980	203,365	43.49	444,236	222,722	50.14
2010	1,300,418	427,644	32.88	465,643	263,059	50.70	463,755	237,756	51.27
2011	1,505,199	79,432	38.50	565,692	280,280	49.54	563,161	360,096	63.94
2012	1,646,150	587,044	35.66	627,302	270,570	43.13	624,658	429,415	68.74
2013	1,648,363	852,717	51.73	639,296	462,517	72.34	637,023	297,988	46.77
2014	1,365,384	766,971	56.17	636,268	397,649	62.49	635,729	386,270	60.76
2015	1,390,234	798,246	57.42	680,357	412,323	60.60	684,124	410,543	60.01
2016	1,200,367	740,345	61.68	706,873	408,122	57.74	705,125	415,655	58.95
2017	580,449	394,898	68.03	377,970	320,635	84.83	377,851	205,757	54.45

Source: Statistic Section WAEC Office Lagos.

The senior secondary school science curriculum is designed to serve the needs and interest of the students of different abilities. Consequently, upon the introduction of the 6-3-3-4 system of education, the curriculum recommended among others that experimentation, demonstration, problem-solving and even field trip resting on practical activities of the students should be used in the teaching of science subjects (FME, 2005 in NPE, 2013). The expectation could be that a successful implementation of the curriculum objective is based on the recommended teaching techniques. The learner would be equipped with adequate knowledge, positive attitude and science process skills that would enhance his performance, sustain his interest and also serve as springboard for the nation's scientific and technological breakthrough. Contrary to these expectations, the level of performance among secondary school science students has not been encouraging (Obochi, 2018). However, Teacher's behaviour is accompanied with feeling of hope, generosity, respect, and joy becomes effective in adapting and improving the conduct of aberrant students who have had previous bad records in science subjects (Yusuf, Fasasi, Yusuf& Mustapha, 2022).

Conversely, teacher's negative conduct such as: referring the rude and undisciplined students to school principal, sending them out of class and overlooking students' serious difficulties had an undesired effect on the students' performance and could be a source of their fair performance (Anfajaya & Rahayu, 2020; Teeple, 2020). Arguably, when specific aspects of student-teacher relationship and interaction are respected, teachers have an adjustable conduct and avoid rigid and inflexible methods which make the students accept them as a friend and companion. Additionally, interactive communication of values between teacher and students indicates teacher demonstrating citizenship behaviour (Crowley, 2013). This relates to behaviour such as punctuality, helping other teachers, volunteering for things that are not required, making innovative suggestions to improve the institution, not complaining about trivial matters, responding promptly to correspondence and not wasting time. This kind of behaviour supports task performance and improves a social and psychological work environment that will eventually aid students' performance (Donglong et al., 2020; Oplatka, 2019). During the COVID 19 pandemic,

Khalid et al. (2021) reported that students identified high levels of TCB behaviours in their teachers as they supported the transition to online learning platforms.

The concept of TCB was coined out from the concept of Organization Citizenship Behaviour (OCB) which was first explored exclusively in corporate and mechanical units. Barnard (1938) introduced the concept of OCB using the system approach while examining organizations. In addition, Katz (1964) in Hanson, Niqab & Arif, (2022) asserted that for any institute to operate properly, personnel must exhibit three types of conduct: workers must be motivated to join and stay with the organization; workers must be able to meet job requirements or play a specific function as and when defined; and workers must have the capacity to innovate and do so spontaneously, even beyond their assigned responsibilities (Werner, 2002). Teacher Citizenship Behaviour (TCB) is the key foundation of every teacher in a school setting. TCB is considered as Teachers' Performance that contributes to the social and psychological context of both the colleagues in the field and the students within the school where teaching occurs. TCB is a behaviour of individual teacher, which is observed as going beyond his/her stipulated assigned task (Fahmi & Permana, 2019). Three basic features of TCB include that the behaviour is voluntary, useful to the school organization, and has a multi-dimensional aspect (Hanson, Niqab & Arif, 2022). Scholars have emphasised relevance of TCB to the success of the school organization especially in the aspect of teaching science subject, it is pertinent to know that the conduct of teachers determines their level of effectiveness (Cohen & Kol, 2004). Moorman and Blakely (1995) state that a good teacher is the one who offers support to the school organisation, even when such support is not verbally demanded. High performance school organizations rely on teachers who go beyond their formal job duties to carry out their task successfully. When individuals in the school setting demonstrate TCB, the group with whom they work has a greater chance of demonstrating superior execution, resulting in improved school viability and contribute greatly to the academic performance of students (Hanson, Niqab & Arif, 2022).

TCB has been defined as, "individual behaviour that is discretionary, not directly or explicitly recognised by the formal reward system, and that in the aggregate promotes the effective functioning of the school system as a formal organisation" (Khalid, Jusoff, Othman, Ismail & Abdul Rahman, 2010). Organ (1997) conceptualizes organizational citizenship behaviour with five dimensions: Altruism, Civic Virtue, Conscientiousness, Courtesy, and Sportsmanship. Organ's five dimensions of organizational citizenship behaviour. Burns and Carpenter (2008) defined Altruism as behaviours of a discretionary nature that are targeted at helping individuals achieve organizationally assigned tasks. Civic Virtue refers to the degree of employee participation within the political elements of the organization. Volunteering to serve on a school improvement team, attending parent-teacher association meetings, and contributing to the dialogue of departmental meetings are some of the many ways that teachers may exhibit civic virtue. Courtesy as a discretionary behaviour of teachers which is respectful and well-mannered way(s) of giving advance notice prior to taking personal leave and providing detailed lesson plans for substitute teachers. The basic premise behind courtesy is that the teacher strives to prevent creating problems for individuals and the school. Conscientiousness which is also known as patriotism is the act of doing more than required in terms of executing or carrying out assigned tasks. Sometimes going the extra mile prevents occurrence of future problems. Finally, sportsmanship refers to the act of preventing negativity or negative actions, such as complaining and rumor-mongering. Again, none of the behaviours enumerated by Organ are directly or explicitly recognized by the formal reward system and as a whole they promote the effective functioning of the school setting (Organ, 1997).

However, based on different researches conducted towards ameliorating failure and improve academic performance of secondary school students in science subjects, such as ones conducted on public-private partnership and secondary school academic performance in science subject (Yusuf, 2017), physical resources and students' academic performance (Sulyman, et al., 2020), parental factor and students' academic performance in science subjects. yet, the problem still persists. On this note, Freeman (2008) stated that education in the 21st Century has become a high stakes game in which teachers and administrators alike are seriously scrutinized for student achievement. Feasibly none feel the pressure of this scrutiny more than teachers. In place of confidence and

empowerment, many teachers feel ineffective and ill equipped as regard passing useful information (knowledge and skills) to their students. He further explained that student achievement continues to fall as a result of lack of commitment, inability to deliver selfless services lack of self-trust and inability to work with others towards achieving certain goals. Based on the aforesaid, there are modern ways through which science teachers in secondary education can achieve effectiveness and improve students' academic achievement in science subjects, the construct that has been identified is teachers' citizenship behaviour. It is against this background that the current study intends to examine teachers' citizenship behaviour as predictor of secondary school students' achievement in Igabi Local Government Area of Kaduna State.

Methodology

Descriptive research design of survey method was adopted in carrying out this study, the population of this study consists of 15 principals and 30 vice principals in the entire 15 secondary schools in Igabi, Local Government Area of Kaduna State. The target population comprised 15 principals 30 vice principals and 52 science teachers in the sampled schools. Purposive sampling technique was used to select 52 science teachers as participants for the study. Then, simple random sampling techniques was used to select 80 respondents out 97 participants using research advisor table of determining sample size. An instrument tagged "Teachers' Citizenship Behaviour Questionnaire (TCBQ)" was adopted from the study conducted by Yusuf, Fasasi, Yusuf, and Mustapha (2022) to collect relevant data from the respondents. The adopted instrument was given to three experts in the field of test, measurement and evaluation for the purpose of face, content and construct validity. Also, the reliability of the instrument was ascertained through a pilot study conducted that yielded a reliability coefficient of 0.83. Additionally, Students' Academic Performance Profoma (SAPP) was used to collect students' results in the West African Examination Council (WAEC). The data gathered for the study were analyzed using Statistical Package for Social Sciences (SPSS).

Results

Table 2: Relationship between the Teachers' Altruism and Students' Academic Performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Variable	N	Mean	SD	Df	Cal.r-value	p-value	Decision
Teachers' Altruism	80	15.46	2.30				
Academic Performance in Science Subject	80	49.79	13.76	78	0.143	0.004	H₀₁: Rejected

H₀₁: There is no significant relationship between the level of teachers' altruism and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State. Result in Table 2 showed that the calculated r- value of .143 and the p-value (0.004) were found less than the significance level at (0.05). Thus, the stated null hypothesis was rejected.

This result therefore suggests that there is a significant relationship between teachers' Altruism and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

H02: There is no significant relationship between the level of teachers' civic virtues and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Table 3: Relationship between civic virtues and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Variable	N	Mean	SD	Df	Cal.r-value	p-value	Decision
Civic Virtues	80	15.83	2.02				
Academic Performance in Science Subject	80	49.79	13.76	78	0.153	0.003	H₀₁: Rejected

As shown in Table 3, the calculated r- value of .153 and the p-value (0.003) were found less than the significance level at (0.05). Thus, the stated null hypothesis was rejected. This result therefore suggests that there is a significant relationship between the level of teachers' civic virtues and students' academic performance in public senior secondary schools in Igabi Local Government Area, Kaduna State.

H03: There is no significant relationship between the level of teachers' Conscientiousness and students' academic performance in public senior secondary schools in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Table 4: Relationship between Conscientiousness and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Variable	N	Mean	SD	Df	Cal.r-value	p-value	Decision
Conscientiousness	80	15.75	1.58				
Academic Performance in Science Subject	80	49.79	13.76	78	0.150	0.002	H₀₁: Rejected

Table 4 showed the calculated r- value of .150 and the p-value (0.002) were found less than the significance level at (0.05). Thus, the stated null hypothesis was rejected. This result therefore suggests that there is a significant relationship between the level of teachers' conscientiousness and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

H04: There is no significant relationship between the level of teachers' courtesy and students' academic performance in public senior secondary schools in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Table 5: Relationship between courtesy and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Variable	N	Mean	SD	Df	Cal.r-value	p-value	Decision
Courtesy	80	15.10	1.83				
Academic Performance in Science Subject	80	49.79	13.76	78	0.149	0.001	H₀₁: Rejected

Result in Table 6 indicated that the calculated r -value of .149 and the p -value (0.001) were found less than the significance level at (0.05). Thus, the stated null hypothesis was rejected. This result therefore suggests that there is a significant relationship between the level of teachers' courtesy and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Ho5: There is no significant relationship between the level of teachers' sportsmanship and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Table 6: Relationship between sportsmanship and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Variable	N	Mean	SD	Df	Cal.r-value	p-value	Decision
Sportsmanship	80	15.90	2.03				
Academic Performance in Science Subject	80	49.79	13.76	78	0.151	0.002	H₀₁: Rejected

Result in Table 6 showed the calculated r -value of .151 and the p -value (0.002) were found less than the significance level at (0.05). Thus, the stated null hypothesis was rejected. This result therefore suggests that there is a significant relationship between the level of teachers' sportsmanship and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Discussion of the Finding

The findings of this study revealed that there is a significant relationship between teachers' altruism and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State, ($r = 0.143$, $p < 0.05$). The finding is consistent with the study of Khalid, Josoff and Othman (2010) found that Altruism was related significantly to students' need for academic achievement in science subjects, which is generally consistent to a previous study by Dipaola and Hoy (2005). Burn and Carpenter (2008) described Altruism as behaviours of a discretionary nature that are targeted at helping individuals to achieve science teacher assigned tasks. Ordinarily, when a teacher displays an act of altruism towards colleagues through teaching of a particular topic while the latter is not on ground, the students stand to benefit and it could lead to encouraging performance at both internal and external examination. The fact about this is that, there are instances where teachers could not meet up with their lesson hour which eventual turnout to affect the performance of students.

There was a significant relationship between teachers' civic virtues and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State ($r = 0.153$, $p < 0.05$). Thus, the hypothesis was rejected. It means that there is a correlation between Civic virtue and students' academic performance in science subjects in Igabi Local Government Area, Kaduna State. Logically, contribution of an individual in a school organization significantly related to school effectiveness and improve on students' academic performance. The foregoing finding is in consonance with the work of Borman (2014) who found that active participation in a school improvement team, attending parent teacher association meetings without prior notice, and making an acute and genuine contribution to the dialogue of department meetings are some of the numerous ways that science teachers may display that translate to success of students in the classroom setting. Podsakoff in his research found that civic virtue means having a thorough knowledge of things happening in the school organization with sincere mind to contribute to the progress and development of such an organization. For instance, high interest in new developments, work methods and school policies as well as self-improvement efforts can bring success and contribute to the school effectiveness which can enhance students' performance.

There is a significant relationship between teachers' conscientiousness and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State ($r = 0.150$, $p <$

0.05). Thus, the hypothesis was rejected. It indicated that there is a correlation between conscientiousness and students' academic performance in science subjects in Igabi Local Government Area, Kaduna State. This finding is in line with the work of Yusuf, Fasasi, Yusuf & Mustapha, (2022), they concluded that personality characteristics, conscientiousness, in particular, has been found to have a strong relationship with the general compliance component of TCB. Likewise, Burns and Carpenter (2018) concluded that conscientiousness, contributes to the group and individual's effectiveness. They explained further those teachers display the act citizenship behaviour through participating in school activities, mentoring teachers, serving on committees, sponsoring clubs, providing others with advance notice, passing on accurate information and many other many examples of behaviour that outshine the prescribed obligations set forth by schools. This behaviour considerably increases in a functioning school when healthy organizations display a strong sense of culture and positive climate. The act of being patriot to the school organization can only make all the above explanation realistic. Therefore, conscientiousness is a strong predictor of students' academic performance.

There is a significant relationship between the level of teachers' courtesy and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State ($r = 0.149$, $p < 0.05$). Thus, the stated null hypothesis was rejected. Which means that courtesy is significantly related to students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State. This finding agrees with the findings of Dipaola and Hoy (2005) who discovered that among the five OCB dimensions correlated with students' academic achievement, only teachers' benevolence and courtesy were significant predictors of students' academic achievement. Yusuf, Fasasi, Yusuf and Mustapha, (2022) and Burn and Carpenter (2018) argued that courtesy helps to prevent belligerent or destructive behaviour and maximizes the use of time by all involved in the school organization. Courteous acts include: communicating appropriate information, reminders, and prior notices to members so that they would not be caught by surprise for any school events. Courtesy helps to prevent problems and facilitates constructive use of time (Yusuf, Fasasi, Yusuf & Mustapha, 2022). In actual sense, engaging in an act that could prevent work related problem in the school organization will bring about cooperation and as a result, there will be progress and development in such school. When this happens, students benefit a lot and this is reflected in their performance.

Last of all, there is a significant relationship between teachers' sportsmanship and students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State ($r = 0.151$, $p < 0.05$). Thus, the stated null hypothesis was rejected. This finding substantiates the study conducted by Yilmaz and Tasdan (2019) who established that positive thinking progresses students' academic achievement. Bawuah (2016) described sportsmanship as an act of not complaining in case of problems. Sportsmanship involves the readiness to tolerate the inconveniences and impositions related to work without complaining. Also, a teacher with high degree of sportsmanship will not complain when his associate is not active enough in a group work assigned to them.

Conclusion

The study focuses on determining the relationship between teachers' citizenship behaviour and students; academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State. Based on the findings of the study, generally, the level of teachers' citizenship behaviour was found to be high. This implies that the independent variables (that is teachers citizenship behaviour) was a predictor of students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State. five instruments used in measuring teachers' citizenship behaviour (teachers' Altruism and teachers' civic virtue, conscientiousness, courtesy sportsmanship were predictors of students' academic performance in science subjects in public senior secondary schools in Igabi Local Government Area, Kaduna State.

Recommendations

From the findings of the study, it can be stated that teachers' citizenship behaviour is an instrument through which effectiveness can be accomplished in secondary schools, which will bring about excellent performance among senior secondary school students in science subjects in public senior secondary schools. Based on the findings of the study, the following recommendations were made:

1. The school administrators should create enabling environment for the teachers and the students through timely motivational activities conducted by the school, that all the five dimensions of teacher citizenship behaviour can be practiced by science teachers as identified in this study.
2. The government at Federal, State and Local Government levels need to organize trainings, workshops, seminars, and conferences for the science teachers, supervisors and principals of public secondary schools on the importance of teachers' citizenship behaviour. This is to equip them to develop high degree of teacher citizenship behaviour while at work in order to enhance students' academic performance especially in science subjects.
3. Teachers need to be actively committed to work, be friendly and accommodating to the students, other colleagues at school and the parents/guidance of students and be resourceful.
4. Developing and nurturing positive culture of professionalism in teaching through progressive, collaborative and instructional leadership should be demonstrated by the science teachers and the school leaders in secondary schools.
5. Science teachers need to display a high level of teachers' citizenship behaviour by being dynamic in line with the current trends in educational system as it is found to related to students' achievement.

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