



Research article

Teachers' time utilisation and students' enrolment in school certificate examination: implication for school leadership

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ABSTRACT

This study investigated the extent to which teachers' time utilisation influences students' enrolment in certificate examination and compared the realized teaching time by teachers in public and private secondary schools in Benin, Nigeria to draw the attention of school leadership to the importance of teachers' time utilisation to the attainment of educational goals. The survey design was employed to elicit data from three hundred and sixty randomly selected senior secondary school students from five public and five private senior schools. Questionnaire served as the data collection instrument and the data were subsequently analysed using Kolmogorov Smirnov test, Mann Whitney U test and Kruskal Wallis test. Results indicate that realised teaching time and time utilisation by the teachers in public secondary schools is significantly lower than what obtains in private secondary schools and significantly lower than the expected teaching time. The realised teaching time and time utilisation also varied significantly within the public and private secondary schools and between classes in public and private secondary schools. Lastly, class sizes were significantly large in the public schools but generally small in the certificate classes, thus implying that teachers' time utilization has a significant impact on students' enrolment. The need for school leaders and administrators to ensure increased teachers' time utilisation for enhanced enrolment in certificate examinations was suggested, among others.

1. Introduction

The primary purpose of schooling is to acquire as well as enhance the knowledge acquired. Knowledge is relevant for self-development, interpersonal relations and quality decision making, which underlines individual and societal prosperity. Education is the means through which economies can be equipped to exploit available resources and thus facilitate rapid development. Educational attainment is the exploitation of resources and good governance. In short, "education serves as a synthesizing factor and builds both common ethos and institutions which are of paramount importance for national growth and security, whether political, economic, social or cultural" (Vashisth, 2018). To this end, the socio-political and economic development of a nation is, in many ways, influenced by the quality and level of educational attainment of the citizenry (Dike, 2003). Therefore, policymakers must take a holistic view at educational development with an emphasis on the foundational stages because it is profitable to expose the citizens, especially the youths, to

quality education to enable them to distinguish between what is right and wrong before adulthood "people are amenable only when they are young, in old age, they become incorrigible, once bad habits and customs are established and prejudices ingrained it is dangerous and futile enterprise to try to reform them" (Dike, 2003).

1.1. School leadership

School leadership is saddled with the responsibility of providing leadership at school to ensure the attainment of the educational goals in line with the national policy on education. To this end, school leadership has the capacity to influence the quality of teaching and learning in schools, and consequently student achievement (Cruikshank, 2017). They manage personnel, funds, and undertake strategic planning, thus effective school leadership enhances accountability and educational outcomes (Pont, 2020). In contemporary times, they must accept responsibilities associated with being their schools' as well as act as

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instructional leaders (Lynch, 2017). This is achieved through the effective management of resources and matching work demands with responsibilities to optimize performance. To this end, effective school leadership can contribute to time management and time utilization in the secondary school system. Specifically, it is the duty of school leadership to ensure that teachers go to the class when they are supposed to be in class and that students are engaged. Furthermore, school leadership also help to assess the teaching methods of teachers and evaluate the teachers and monitor students' achievement. They also design the curricula and ascertain the extent of coverage of the curricula by teachers. Effective school leadership can help to optimise time utilisation through effective supervision, evaluation of teachers and assessment of teaching methods.

In order for policymakers to implement a successful educational programme at the secondary school level, they must elicit the full cooperation of school teachers because learning depends on the commitment of teachers since it "is a direct consequence of teacher-learner interaction with the material. The way the teacher relates with the learners, the way he treats them and the methods he adopts in making them learn" (Ehiamentor and Osagie, 1999) has significant implication on learning outcomes. Consequently, teachers play an indispensable role in the school learning process.

Teaching at the secondary school level demands total commitment on the part of the secondary school teacher because he is expected to play a tripartite role of teaching, guidance and counselling to adequately attend to the needs of the students since he is not just a stakeholder but a fiduciary in the educational system. It is for this reason that the issue of time utilisation becomes very important because there is a minimum number of times, daily, that the teacher is expected to interact with the students. The lower the discrepancies between the realised teaching time and the expected teaching time, the higher the level of efficiency of the system.

1.2. Time management

Time management is a very important concept in business and education. It is consistent with the need for planning, which is critical to the attainment of organizational goals. Time management facilitates the accomplishment of individual and organizational goals given the paucity of resources at man's disposal (Gbokwe-Ibeto and Egbon, 2012; Osawe, 2017). Time management enhances employee productivity and facilitates the speed of production, thereby enhancing organisational efficiency (Alkhateeb et al., 2012). Time utilisation flows from effective time management. It is for this reason that several researchers have conducted empirical studies on time management and time utilisation in recent times. Some of the authors that have contributed to recent empirical studies on time management are Tanusha et al. (2019), Singh et al. (2018), Anskär et al. (2018) Osawe (2017) Ogonor and Momoh (2015), Gbokwe-Ibeto and Egbon (2012), Ojokuku and Obasan (2011), Alkhateeb et al. (2012), Ziekye (2016), Odumeru (2013) as well as Narayan and Bansal (1984), among others.

Despite the numerous studies on time management and time utilisation, especially in business and educational organisations, only very few focused on secondary school settings with a specific focus on school administration and none appears to have focused on the utilisation of teaching time by teachers and its impact on students' enrolment; neither has any study attempted to compare the utilisation of teaching time in public secondary schools with what obtains in private secondary schools. Given that teachers' time utilization in secondary schools is critical to the attainment of educational goals because secondary education is part of the foundational levels; it thus means that teachers' time utilization is critical to school leadership and management as well as policymakers in government. Furthermore, the attainment of a nation's educational goals is critical to its strategic human capital, technological capital and economic development. By implication, teachers' time utilization is critical to the quality of a nation's strategic human capital, technological capital and economic development. This underscores the importance of this

study and the authors' motivation to conduct the study. Specifically, this study sought to contribute to the burning debate on "Performance in public and private secondary schools in Nigeria", which has been on for over three decades. While the private school proprietors believe that private schools are better than public schools, the public school administrators argue that most private schools are "Substandard and mushroom" institutions. This study sought to find out which of the two groups has a higher teaching time utilisation and by implication, which of the two groups adds more value to secondary school students.

1.2.1. Objectives of the study

The main objective of the study was to determine the impact of teachers' time utilization on students' enrolment in school certificate examination to draw the attention of school administrators to teachers' time management as a critical factor of efficiency in secondary schools. The specific objectives were to determine whether there is any significant difference between the realised teaching time in private and public secondary schools in Benin city, ascertain the relationship between time utilisation and some socio-demographic variables like gender, marital status and category of school, as well as find out the factors that influence time utilisation among secondary school teachers in Benin metropolis.

2. Literature review

Although there are several studies on the perceived falling standard of education in Nigeria (Oyelola, 2015; Ojedokun and Aladejana, 2012; Duze, 2011a, 2011b; Arong and Ogbade, 2010; Okoroma, 2007; and Odia and Omofonmwan, 2007), there appears to be a shortage of studies on time utilisation in secondary schools. This section examines some extant studies on the research problem.

2.1. Conceptual clarification

When people are employed to work in any organization, there are terms and conditions of service that they are supposed to comply with. There are also obligations that the employer owes his employees. Among other things, the employee is supposed to perform certain duties for a specified number of hours daily, except for periods that he is on leave. To this end, he is supposed to utilise the work time strictly for office purpose. On the part of the employer, he is supposed to provide a good working environment and pay the employees' entitlements as and when due, among others. It is only then that he can demand full compliance by the employee with all terms and conditions. The same applies to educational institutions, including secondary schools.

Time utilisation is the extent to which an individual worker applies or dedicates himself to the duties assigned to him during the agreed business hours and cooperates with other employees in the organisation to achieve the set goals of the organisation. On the other hand, "time utilisation rate (TUR) is the ratio of realised work hours to the theoretical number of hours expected of the employee" (Inegbenebor and Agbonifoh, 1985). In the case of a teacher, given his work environment, time utilisation is the ratio of the number of hours for the classes taught per week to the theoretical number of hours for all the classes he is expected to teach for the same period (Ayodele and Oyebanji, 2007). It is believed that if employees utilise a reasonable proportion of work time performing their duties, organisational performance will be enhanced. To this end, time utilisation, through time management, is presumed to have a significant positive influence on employee performance (Ojokuku and Obasan, 2011; Alkhateeb et al., 2012). In the same vein inadequate time utilisation and ineffective time management have their consequences on expected outcomes which, in this case, are the attainment of educational goals. That is, inadequate time utilisation and ineffective time management lead to the sub-optimisation of educational goals. To say the least, efficient time utilisation stimulates the optimisation of expected outcomes, especially students' academic achievement.

2.2. Empirical review

Kayode and Ayodele (2015) examined the impact of teachers' time management on secondary school students' academic performance in Ekiti State, Nigeria. The survey research design was employed and data were analysed using descriptive statistics and Pearson's product-moment correlation. They found a significant relationship between teachers' time management and students' academic performance. Etor and Ekpenyonganwan (2019) investigated time management and teachers' job performance in public secondary schools in Calabar education zone in Nigeria. They employed the correlational survey design. The data elicited from respondents were analysed using Pearson Product Moment Correlational analysis. The findings showed that time management correlates positively and significantly with teachers' work performance.

Ogonor and Momoh (2015) investigated "time-resource utilisation for school-community relationship functions by Primary School Heads in South-South Nigeria" They employed descriptive survey design. The population of the study consisted of all headteachers Niger Delta; South-South Nigeria while the respondents were one hundred and sixteen (116) headteachers that were selected through purposive sampling from the population. The School Activities Time-Mix of Head Teachers Checklist (SATMHTC), which is used to find out the amount of time spent daily on each administrative task, was employed in data collection. The results showed that school-community relations consumed more of headteachers' time than other activities.

Singh et al. (2018) investigated time utilisation by female health workers in South India to assess its impact on service delivery, work planning, among others. The design was a time and motion study. Multistage sampling technique was employed in conjunction with direct observation of 43 auxiliary nurses midwives (ANMs) for six consecutive working days. Grounded theory was used to analyse the data. Results showed that ANMs were overworked and thus tended to be inefficient.

Anskär et al. (2018) investigated time utilisation and work environment in Swedish primary care settings. They employed a mixed-method consisting of time study and survey design with questionnaire serving as the research instrument. Specifically, the questionnaire comprised the Copenhagen Psychosocial Questionnaire. Findings indicated that primary care staffs (PCPs) had a relatively low time utilisation than other staff members. Osawe (2017) investigated the influence of time management on service delivery in Nigeria. The focus was on efficient service delivery in the public service. Results portrayed time management as a big problem among Nigeria public servants and a big threat to effective service delivery. The need for public servants to consciously plan the allocation of time and implement the same was suggested, among others.

Gbokwe-Ibeto and Egbon (2012) examined time management and employee performance. Time management theories and approaches were employed. The results showed that managers and their subordinates encounter time management problems which pose constraints to the attainment of organizational goals. The need to encourage subordinates to seek clarification priorities to ensure efficient utilisation of time was suggested, among others.

Ojokuku and Obasan (2011) examine how time management influences organizational performance, particularly government parastatals. A sample size of 1500 civil servants was randomly selected from South Western Nigeria. They employed the econometric approach to analyse the data. They found that time management was positively related to organisational performance and the relationship was statistically significant. The need to set goals and conduct performance appraisals in line with the set goals was suggested, among others.

Claessens et al. (2007) reviewed time management literature to update research on it. Thirty-two empirical studies conducted between 1984 and 2004 were included in the review. The results indicate the existence of a positive relationship between time management behaviour and perceived control of time, job satisfaction, and health. The results also indicate the existence of a negative relationship between time management and stress. Alkhateeb et al. (2012) investigated the

relationship between time management and job performance in Malaysia Privet University. They employed data elicited from 220 participants, using a survey questionnaire. The results indicated a significant positive relationship between time management and job performance.

Ziekye (2016) investigated the impact of time management on organizational effectiveness with a focus on planning/scheduling as well as organizing/prioritizing. The paper sought to ascertain the determinants of time management in Ghana and examine how factors relate to organizational effectiveness. A time management model was designed linking its determinants with organizational effectiveness. Results showed that the principal indices of time management have a significant positive impact on organizational performance. Odumeru (2013) investigated effective time management by examining the concept of time management and how it can be implemented to enhance efficiency and effectiveness. He found that most developing countries particularly those of Africa have a problem with time management. Narayan and Bansal (1984) examined time utilisation patterns in primary health centres of Pondicherry over 6 days. Direct observation was employed and data were analysed using descriptive method. Results showed that medical care accounted for a significant proportion of the utilisation of time in the system.

2.2.1. Gap in literature

Work-time utilisation is critical to organizational efficiency and performance because organizational design takes cognizance of tasks to be performed by employees and the average duration of such tasks within specific periods. When employee engagement time is significantly less than the specified time, there is increased idleness and decreased efficiency. Notwithstanding its relevance to organizational efficiency, there is the dearth of literature on work-time utilisation by employees and the consequences of such work time utilisation on organizational efficiency as well as the relationship between employee work time utilisation and socio-demographic variables (gender, marital status and age).

Some of the related studies have examined time management and teachers' job performance in public secondary schools (Etor and Ekpenyonganwan, 2019; Kayode and Ayodele, 2015), "time-resource utilisation by Primary School Heads in South-South Nigeria" (Ogonor and Momoh, 2015), time utilisation patterns in primary health systems (Singh et al., 2018; Narayan and Bansal, 1984), "gender participation, time utilisation and employment generated through animal husbandry activities in Uttarakhand" (Tanusha et al., 2019), time utilisation and work environment in Swedish primary care settings (Anskär et al., 2018), time management and employee performance (Ziekye, 2016; Gbokwe-Ibeto and Egbon, 2012; Alkhateeb et al., 2012; Ojokuku and Obasan, 2011).

The results show that teachers' time management was significantly related to students' academic performance (Etor and Ekpenyonganwan, 2019; Kayode and Ayodele, 2015), females are more actively involved in animal husbandry activities (Tanusha et al., 2019), Health workers in India were overworked and thus tended to be inefficient (Singh et al., 2018), primary care staffs (PCPs) had a relatively low time utilisation than other staff members (Anskär et al., 2018), school-community relations consumed more of head teachers' time than other activities (Ogonor and Momoh, 2015) and time management is positively related to organisational performance (Ziekye, 2016; Alkhateeb et al., 2012; Ojokuku and Obasan, 2011; as well as Claessens et al., 2007). Despite the relevance of the school system to societal development, only one of the studies appears to have focused on the school system. This study sought to fill this gap. Besides, previous studies have not consciously drawn attention to the relevance of teachers' time utilization to school efficiency and the attainment of educational goals. This study sought to fill this gap and thus draw the attention of school leadership and management to teachers' time utilization in secondary schools.

2.2.2. Hypotheses

The following null hypotheses were tested:

- H_{01} : There is no significant difference between the realised teaching time in public and private secondary schools in Benin metropolis;
 H_{02} : Teachers' time utilisation does not have any significant impact on students' enrolment in school certificate examination
 H_{03} : There is no significant difference in the realised teaching time of students in different classes;
 H_{04} : There is no significant difference in the realised teaching time among the different public secondary schools in Benin metropolis; and
 H_{01} : There is no significant difference in the realised teaching time among the different private secondary schools in Benin metropolis.

Null hypotheses were tested by the authors in order not to pre-empt the outcomes. Conventionally, null hypotheses are tested in statistics to prevent bias. This is because null hypotheses are known to deny the existence of relationships. However, once a null hypothesis is rejected on the basis of a statistically significant test, the alternative hypothesis (which is often implied by the null hypothesis) stands.

2.3. Theoretical framework

This study adopts the Job Demand and Resources (JD-R) theory of employee engagement as its framework. According to the JD-R model, employee engagement (EE) can be categorised into four- Work/job engagement, Task engagement, Organization engagement and Team/group engagement. "The levels of engagement are affected differently by different psychological conditions; meaningfulness at work, meaningfulness in work, safety, and availability of psychological resources" (Saks and Jamie, 2014). Specifically, the JD-R model explains how job resources and demands influence psychological conditions; thus implying that job demands and resources have significant implications on employee engagement consequently, effective management of job demands and resources is critical to increasing employee engagement. Since employee engagement is a function of time utilisation, it is logical to assume that job demands and resources and other related factors are critical to teachers' time utilisation.

3. Research methods

The population of the study consisted of senior secondary school one (SSI), senior secondary school two (SSII) and senior secondary school three (SSIII) students of five public senior secondary schools and five private secondary schools in Benin City. The survey design was employed.

3.1. Procedure

The study employed questionnaires to elicit the desired information from the students. The questionnaire was administered to the first 80 senior secondary students leaving the school gate at closing hours on the day of the study. Next, the retrieved questionnaires were stratified based on the classes of the respondents (SSI, SSII or SSIII); subsequently, simple random sampling (lottery method) was used to select 12 students from each stratum. Thus, 12 students were selected from each class per school, making a total number of respondents of 36 per school and 360 from the 10 schools investigated. The average realised lessons per day was computed from the weekly realised number of lessons and compared with the expected realised number of lessons (see Table 1) to determine the realised teaching time and thus the efficiency of the system. The realised number of lessons was used to compare time utilisation in public secondary schools with that of private secondary schools.

3.1.1. Measurement of variables

The dependent variables employed in the study are realised teaching time and time utilization. The independent variables are the type of

school, student's enrolment in school certificate examination and classes of students. The measurements of the variables are:

Realised Teaching Time: Realised teaching time was measured as the number of hours taught per day, which is the number of periods taught times the stipulated time per period.

Time Utilisation: This was measured as the realized teaching time divided by the standard (Expected) teaching time, times hundred.

Students' enrolment in school certificate examination: This was measured by students' willingness to enrol.

The type of school (public or private) and classes of students were measured on a categorical scale. Measurement of realised teaching time and time utilisation are both ratio, consistent with Inegbedion and Aghedo (2018) while the measurement of type of school is nominal.

3.2. Method of data analysis

Research data were analysed using descriptive statistics (frequency tables mean and standard deviation) as well as inferential statistics which consisted of one sample Kolmogorov Smirnov test, Mann Whitney U test and Kruskal Wallis tests. One-Sample Kolmogorov-Smirnov test was performed to test the data for normality. Following the data's failure of normality test, nonparametric statistics were employed. Mann Whitney U test was used compare time utilisation between public and private secondary schools (two groups), Kruskal Wallis tests were performed to test for differences between realised teaching times among public secondary schools (five groups) as well as the differences between realised teaching times among private secondary schools (five groups) and realised teaching times among classes in public and private secondary schools (three groups each).

3.3. Ethics

This study was approved by the Ethics Review Board at Landmark University, Omu-Aran. Participants received information about the study verbally through one-on-one interaction with the research assistants. Specifically, all participants were informed that the study was voluntary, that they could drop out of the study without explanation at any time, and that confidentiality was guaranteed. The participants agreed to participate by responding to the questionnaire. It was not possible to seek parental consent of the students because of the random and cross-sectional nature coupled with the associated large number of students as well as the impromptu nature to prevent the possibility of premeditated responses. Besides, in Nigeria, it is not conventional to seek parental consent of secondary school students to elicit responses to research questions when they are within the school premises. However, the consent and approval of the principals of the schools concerned were sought and received.

3.4. Validity

The research instrument was given to experts in management science at the University of Benin and Landmark University for their inputs. There scrutiny and adjustments served to validate the instrument from the perspective of face validity. Furthermore, content validity indexes, consistent with Inegbedion et al. (2020), (item and scale levels) were conducted and the values of 0.70, 0.70, 0.75 and 0.65 obtained for time utilisation, description of teaching, willingness to change school and the entire instrument was deemed to be indicative of a valid instrument. This is consistent with the cut-off value of approximately 0.7 for a valid instrument (see Table 1a).

3.5. Reliability test

The data collected were input into the Statistical Package for Social Sciences (SPSS) software which was used to implement the data analysis. Cronbach alpha was used to test for reliability of the instrument. The

Table 1a. Content validity Index.

Construct	Item-CVI	Scale-CVI
Time Utilisation	0.70	
Description of Teaching	0.70	
Willingness to change School	0.75	
Willingness to enrol SSCE in current School	0.65	
Entire Instrument		0.70

computed Cronbach alpha of the time utilisation construct was found to be 0.897 for the entire items on time utilisation in both public and private secondary schools (items 1–5). The values of Cronbach alpha for the same set of items were 0.692 and 0.887 for public and private secondary schools. The implication is that the items used in measuring realised teaching time are internally consistent (see Table 2). Reliability could not be computed for willingness to change school and willingness to enrol in current school because the two items are nominal owing to the response formats of the two items. The same applies to items 7 and 8. It is pertinent to note that the entire five hypotheses that were tested in this study relate directly to realised teaching time (items 1–5). To this end, the reliability of items 1–5 suffices for the reliability of the instrument.

4. Results

The data elicited from the respondents were tested for normality using the one-sample Kolmogorov Smirnov statistic. The results showed that the calculated value of Kolmogorov Smirnov Z and asymptotic significant probabilities were 3.435 ($P < 0.001$), 4.037 ($P < 0.001$), 4.032 ($P < 0.001$), 4.140 ($P < 0.001$), 3.47 ($P < 0.001$), 4.33 ($P < 0.001$), 3.66 ($P < 0.001$), 2.88 ($P < 0.001$), 1.134 (0.152) and 2.018 ($P < 0.001$) for items Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9 and Average perception respectively. Consequently, the null hypothesis that the data are normal is rejected for Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8 and Average perception respectively (see Table 3). Based on the results of the one-sample Kolmogorov Smirnov test, the test of significance of the research hypotheses was performed using nonparametric statistics (Mann Whitney U and Kruskal Wallis) following the withdrawal of the assumption of normality since the data related to realised teaching time, were found not to be normally distributed.

Results of the study indicate that the mean realised lesson periods in public secondary schools is 3.663 periods with a standard deviation of 0.500 while that of private secondary schools is 6.251 with a standard deviation of 0.690 (see Table 4). When compared with 8 periods, the expected number of periods per day (see Table 1), it means that the percentage of periods realised by public secondary schools is 45.8 while that of private secondary schools is 78.1. The standard deviations indicate that the variability of realised classes or classes taught in public secondary schools is lower than that of private secondary schools.

The first hypothesis was tested to compare realised teaching time in public secondary schools with realised teaching time in private secondary schools. A comparison of realised class periods and, by implication realised teaching time, of public secondary schools with that of private secondary schools was done using Mann Whitney U test. The results showed that the mean ranks were 90.66 and 270.34 for public and private secondary schools respectively. The sum of the ranks of public secondary schools was 16319 while that of private secondary schools was

48661, thus indicating that public secondary schools had lower realised teaching times (see Table 5).

The calculated value of the Mann Whitney U revealed that these mean ranks were significantly different at one per cent level since the computed U and asymptotic significant probabilities were -16.432 ($p < 0.001$). See Table 5a. We may, thus, conclude at the ninety-nine per cent (99%) confident level that the realised teaching time in private secondary schools is significantly higher than that of public secondary schools.

The second hypothesis was tested to find out whether teachers' time utilisation has any significant impact on students' enrolment in school certificate examination. From the results in Tables 5 and 5a (Mann Whitney test results), public secondary schools had lower realised teaching times than private schools and the difference is significant at one per cent level. An examination of students' willingness to enrol senior school certificate examination (SSCE) in their current school revealed that more private secondary school students (103) were willing to enrol in their schools than public secondary school students (57) (see Table 6).

Results in Tables 5, 5a and 6 thus indicate that there is a significant relationship between realised teaching time and students' enrolment in school certificate examination (SSCE).

The third hypothesis was tested to examine whether there is any significant difference in the realised teaching time of students in different classes. A comparison of realised teaching time with classes of respondents was done using Kruskal Wallis Test. The results showed that calculated Kruskal Wallis H and associated significant probabilities were 15.47 ($P < 0.001$) respectively for public secondary schools, thus indicating that there is a significant difference between realised teaching time across the three classes (SS1, SS2 and SS3) in public secondary schools (See Table 7).

Also, a comparison of realised teaching time with classes of respondents in private secondary schools showed that calculated Kruskal Wallis H and associated significant probabilities were 16.1 ($P < 0.001$) respectively, thus indicating that there is a significant difference between realised teaching time across the three classes (SS1, SS2 and SS3) in private secondary schools (see Table 8).

The fourth hypothesis was tested to find out whether there is any significant difference in the realised teaching time among the different public secondary schools in Benin metropolis using Kruskal Wallis test. The results revealed a calculated Kruskal Wallis H and associated asymptotic significant probability of 15.849 ($P < 0.0$ respectively 01),

Table 2. Reliability statistics.

Construct	Cronbach Alpha
Realized teaching time in all schools (public and private)	0.87
Realized Teaching Time in public secondary Schools	0.692
Realized Teaching Time in private secondary Schools	0.887

Table 1. Expected number of periods and teaching times per Day.

Periods	1	2	3	4	5	6	7	8	Total
Time	8.20	9.00	9.40	10.20	11.00	12.00	12.35	1.35	
Duration (Minutes)	40	40	40	40	40	35	35	35	305

Table 3. One sample Kolmogorov Smirnov Test for Normality.

	Mean	SD	Kolmogorov Smirnov Z	Asymp. Sig (2-Tailed)
Q1	3.07	0.81	3.435	0.000
Q2	4.05	0.695	4.037	0.000
Q3	4.03	0.703	4.032	0.000
Q4	4.07	0.729	4.14	0.000
Q5	3.08	0.790	3.47	0.000
Q6	1.80	0.611	4.33	0.000
Q7	1.96	0.680	3.66	0.000
Q8	1.99	0.802	2.88	0.000
Q9	91.36	21.123	1.134	0.152
Avg	3.663	0.5004	2.018	0.001

Table 4. Mean Realised teaching time and category of School.

Category of School	N	Mean time	Std. Dev.	Realised Percentage
Public Secondary Schools	180	3.663	0.500	45.8
Private Secondary Schools	180	6.251	0.690	78.1
Total	360			

Table 5. Realised teaching time and school category.

Category of School	N	Mean Rank	Sum of Ranks
Public Secondary Schools	180	90.66	16319
Private Secondary Schools	180	270.34	48661
Total	360		

Table 5a. Mann Whitney test of realised teaching time and school category.

Test Statistic	Value
Mann Whitney U	29.00
Z	-16.432
Asymptotic Significance	0.0000

thus indicating that the test was significant at one per cent (1%) level. The implication is that we may conclude at the ninety-nine per cent (99%) confidence level that realised class periods vary within the public secondary schools (see Table 9).

The fifth hypothesis was tested to find out whether there is a significant difference in the realised teaching time among the different private secondary schools in Benin metropolis using Kruskal Wallis test. The results revealed a calculated Kruskal Wallis H and associated asymptotic significant probability of 13.682 (0.008) respectively, thus indicating that the test was significant at one per cent (1%) level. The implication is that we may conclude at the ninety-nine per cent (99%) confidence level that classes taught vary within the private secondary schools (see Table 10).

Examination of respondents' perception of teaching in their school shows that the number and percentage of the public school students who

perceive teaching to be boring, satisfactory and interesting were 55 (30.6%), 106 (58.9%) and 18 (10.5%) respectively. The corresponding values of private secondary schools were 26 (14.4%), 87 (48.3%) and 67 (37.2%) for boring, satisfactory and interesting respectively. This shows that more private secondary school students perceive teaching to be interesting than public secondary school students while more public secondary school students perceive teaching to be boring than private secondary school students (see Table 11).

An examination of students' willingness to change school shows that the number and percentage of public secondary school students who were unwilling to change school, undecided and those willing to change school were 37 (20.6%), 105 (58.3%) and 38 (21.1%) respectively. The corresponding values of private secondary school students were 104 (57.8%), 54 (30%) and 12 (12.2%) for unwilling to change school, undecided and willing to change school respectively. The implication is that more public secondary school students are willing to change school than private secondary school students while more private secondary school students are unwilling to change than public secondary school students (see Table 12).

An examination of students' willingness to enrol Senior Secondary Certificate Examination (SSCE) in their school shows that the number and percentage of public secondary school students who are unwilling to enrol SSCE in their schools, undecided and those willing were 58 (32.3.6%), 65 (36.1%) and 57 (31.7%) respectively. The corresponding

Table 6. Willingness to enroll SSCE in current school.

	Public Secondary schools		Private Secondary schools		Total	
	F	(%)	F	(%)	F	(%)
No	58	32.2	26	14.4	84	23.3
No View	65	36.1	51	28.3	116	32.2
Yes	57	31.7	103	57.2	160	44.4
Total	180	100	180	100	360	100

Table 7. Realized Teaching time and classes of Students in public schools.

Variable		N	Mean Rank	Kruskal Wallis H	Sig.
Classes	SS1	60	82.34	15.47	0.000
	SSII	60	111.59		
	SSIII	60	77.57		
	Total	180			

Table 8. Realized Teaching time and classes of Students in private schools.

Variable		N	Mean Rank	Kruskal Wallis H	Sig.
Classes	SS1	60	96.78	16.1	0.000
	SSII	60	105.43		
	SSIII	60	69.29		
	Total	180			

Table 9. Realised Teaching Time and Public Secondary schools.

Type of School	N	Mean Rank of Realized teaching time	Kruskal Wallis H	df	sig. P
1	36	79.51	15.849	4	0.003
2	36	87.60			
3	36	111.85			
4	36	99.10			
5	36	71.44			

Table 10. Realised Teaching Time and Private Secondary schools.

Type of School	N	Mean Rank of Realized teaching time	Kruskal Wallis H	df	sig. P
1	36	96.50	13.682	4	0.008
2	36	110.47			
3	36	95.58			
4	36	80.81			
5	36	69.14			

values of private secondary school students were 26 (14.4%), 51 (28.3%) and 103 (57.2%) for unwilling to enrol SSCE in their schools, undecided and willing respectively. The implication is that more private secondary school students are willing to enrol the SSCE in their current school than public secondary school students (see Table 6).

Lastly, an examination of class size revealed that classes in public schools have a range of 44–150 with a mean value of 91 and a standard deviation of 27 while classes in private schools have a range of 39–60 with a mean value of 49 and a standard deviation of 4. The implication is that public schools have larger class sizes than private schools (see Table 13).

4.1. Discussion of findings

The realised teaching time in public secondary schools is 45.8% while that of private secondary schools is 78.1%, thus implying that private secondary schools are more efficient in time utilisation than private secondary schools. This is consistent with the observation of Singh et al. (2018) that health workers in India were overworked and thus tended to be inefficient. The seeming less efficiency of the public secondary schools could be attributed to the larger classes and the attendant lower teacher-students ratio. Beyond efficiency in time utilisation, this result is also suggestive that private secondary school authorities appear to be more effective in the management of job demands and resources

Table 11. Perception of teaching.

	Public Secondary schools		Private Secondary schools		Total	
	F	(%)	F	(%)	F	(%)
Interesting	55	30.6	26	14.4	81	22.5
Satisfactory	106	58.9	87	48.3	193	53.6
Boring	19	10.5	67	37.2	86	23.9
Total	180	100	180	100	360	100

Table 12. Willingness to change school.

	Public Secondary schools		Private Secondary schools		Total	
	F	(%)	F	(%)	F	(%)
No	37	20.6	104	57.8	141	41.4
No View	105	58.3	54	30	159	41.9
Yes	38	21.1	22	12.2	60	16.7
Total	180	100	180	100	360	100

Table 13. Class size.

	Mean	SD	Minimum	Maximum
Public Schools	91	27	44	150
Private School	49	4	39	60

especially as regards the matching of resources with job demands consistent with the job Demand and Resources Theory. It was also found that more private school students are willing to enrol their school certificate examination in their schools than public secondary school students. This is suggestive that efficiency in time utilisation or simply put, teachers' time utilisation, which is higher in private schools, influences students enrolment in school certificate examination. The lower variability of the realised lesson periods in public secondary schools indicates that the time utilisation obtained from public secondary schools is more reliable than that of private secondary schools. Results also show that classes taught and teaching times vary within the public and private schools thus indicating that school administrative policies may have a role to play in the degree of compliance of teachers in various schools or the staffing may be irregular. This is consistent with the Job Demand and Resources Theory. Results further show that more private secondary school students find their lessons interesting and satisfactory than public school students. This is consistent with the findings on realised lessons and teaching times which indicate that private schools are more efficient; as well as the class sizes which are larger in public schools. This is also consistent with [Etor and Ekpenyonganwan \(2019\)](#); as well as [Kayode and Ayodele \(2015\)](#) finding that teachers' time management was significantly related to students' academic performance. More public school students are also willing to change school than private school students. This is not unconnected with their degree of satisfaction with the teaching in their schools vis-à-vis the satisfaction of private secondary school students.

The results also show that realised teaching times vary significantly across classes in public secondary schools and private secondary schools. This may not be unconnected with the variability of realised teaching times between different public secondary schools as well as between different private secondary schools. Lastly, results also showed that public secondary schools have larger class sizes than private schools; this partly explains why more students in public schools find teaching more boring than in private schools and why more students in private schools find classes more interesting than those in public schools. It also explains why realised teaching time in public schools is lower than that of private schools because it is hectic managing large classes, especially in the afternoons. The larger classes in public secondary schools negate the proposition of the Job Demand and Resources Theory. This explains why the public secondary schools have a problem with time utilisation by the teachers and hence efficiency compared to the private secondary schools. This is consistent with the JD-R theory of employee engagement because more students in the public secondary school classes imply a greater job demand in the public secondary schools than the private secondary schools. The greater job demand than they can handle can lead to

inefficiency. This is consistent with [Singh et al., 2018](#)). On the other hand, the inability of the public secondary school teachers to increase their engagement in teaching and thus their time utilisation is a reflection of the inability of policymakers and the public school administrators to effectively manage the job demands and resources in the public school system. This demands the need for policymakers in government and public school administrators to re-strategize on the management of job demands and matching of human resources (teachers) with the job demands (required teaching hours).

4.2. Implication for school leadership and management

The purpose of school leadership is to motivate and influence the teachers and students to the achievement of the educational goals of the school, in line with the education policy of the state. One major state policy is to increase the level of literacy while reducing the level of illiteracy. Education policy in Nigeria currently supports creativity and ability to take initiative through entrepreneurial thinking. The teaching and learning process is an interactive one and at the secondary school stage, it requires the commitment of teachers through the investment of time and other resources. It is for this reason that teachers' time utilisation is sacrosanct to the attainment of educational goals. The higher the proportion of teaching time that school teachers committed to teaching, the higher the likelihood that the educational goals will be attained and vice versa. The results of this study show that private secondary school teachers have a higher time utilisation than public secondary school teachers and thus have a higher school enrolment than the public secondary schools. This is because satisfaction stimulates loyalty and loyal customers are critical to organisational success ([Inegbedion and Obadiaru, 2018](#)). The implication is that school leadership should monitor and control teachers' time utilisation to minimise the discrepancies between the realised teaching time and the expected teaching time. This will help to minimise the gap between the potential and actual goal attainment in the school system. The smaller the gap the better for the school and the entire school system as that will translate to the accomplishment of the educational goals of the individual schools in particular and that accomplishment of the educational goals of the all the schools in the entire system in and the state in general.

5. Conclusion

The study concludes that teachers' time utilization influences students' enrolment in school certificate examination, teachers' time utilisation in private secondary schools is higher than what obtains in public

secondary schools, time utilisation varies among public and private secondary schools, time utilisation varies among students in different classes in public and private secondary schools; the variability of time utilisation within public secondary schools is lower than what obtains in private secondary schools, and private secondary school students are more satisfied with school teaching than public secondary school students.

This study has made a significant contribution to education and management and school leadership research. Although there are empirical studies on time management and time utilisation, this study is about the first to study teachers' time utilisation in secondary schools in Benin metropolis in particular and Nigeria in general and among the very few to have done so in the West African sub-region. This study is also the first to relate teachers' time utilization to educational leadership and management by showing that time utilization is critical to the attainment of educational goals. Given that the purpose of school administration is geared towards motivating teachers and students to the attainment of educational goals, the study has thus bridged a visible gap in knowledge. Results of the study have shown that time utilization is sacrosanct to students' enrolment in school certificate examination. Given the importance of students' enrolment to the going concern of a school system, it thus indicates that teachers' time utilization is critical to the going concern of the school system. Thus, the results provide valuable data to education administrators on how teachers' time utilization can contribute to the attainment of educational goals and hence enhance efficiency in the education sector. It thus provides relevant data for school leadership and management. Furthermore, it is about the first study to empirically compare public and private secondary schools based on time utilisation. It has thus drawn the attention of policymakers to a phenomenon that is critical to the actualization of the goals of education.

The study was not without some methodological setbacks which pose some constraints to the generalization of the results of the study. First, the sampling technique was done in reverse order. Rather than sampling and administering the instrument to respondents, the instrument was administered to several respondents higher than the desired sample and the desired sample was drawn thereafter. This was necessitated by the desire to expedite action since the exercise was carried out immediately after school hours. Secondly, the researcher's inability to elicit information from the teachers may pose some concern. The teachers were avoided to guide against suspicion. However, attempts were made to mitigate the possible bias that may arise from relying solely on information elicited from students by using the notebooks of two randomly selected students in each class per school to corroborate the information supplied in the questionnaires. Lastly, the researchers believe the results can be improved if more schools are included in the sample.

5.1. Recommendations

No doubt, education is the bedrock of any society. The difference between the industrially advanced countries of the world, whose citizens have the necessities of life; and the less developed countries, whose citizens are living in squalor and stupor, is the quality of human capital which, itself, is a function of the educational system in place. Given the problem definition and research findings, the following recommendations are suggested.

Policymakers in government, as well as school leaders and managers, should focus on teachers' time utilization as one of the critical factors that can contribute to efficiency in the school system and thus monitor and regulate teachers' time utilization to enhance the attainment of educational goals.

Policymakers and key stakeholders in the education sector should institute a recruitment process that will ensure that only those who have a passion for teaching get into the teaching profession. This will make it possible to have teachers that will be willing to utilise the teaching time optimally. Policymakers should provide adequate facilities to reduce the average class size in public schools to a manageable size. This is the only way the public school teachers can effectively manage their classes and interact adequately with their students to achieve the desired educational goals. The standard class size as recommended by the national policy on education is between 30-40. Any class significantly larger than that is too much for one teacher to handle at a time. Manageable class sizes will make teaching more interesting for teachers and students alike.

Policymakers should also endeavour to provide good working conditions such as good and well-ventilated classrooms, good and well-ventilated staffrooms to ensure that the teachers do not have any constraint posed by the work environment. Furthermore, teachers should be adequately motivated to enjoy teaching so that they will be glad each time duty calls. Inadequate motivation can precipitate personalization of official time to the detriment of the goals of education. A situation where political office holders and other members in the society treat teachers with disdain is despicable and unacceptable. Lastly, and most importantly, policymakers should put measures in place to continuously monitor the time utilisation of teachers until such a time that the teachers find fulfilment in teaching, which is their primary assignment.

Declarations

Author contribution statement

H. E. Inegbedion: - Conceived and designed the experiments; Analyzed and interpreted the data; Wrote the paper.

S. O. Adeyemi: Performed the experiments; Contributed reagents, materials, analysis tools or data.

O. Akintimehin, D. Eluyela: Contributed materials, analysis tools or data; Analyzed and interpreted the data.

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The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

Appendix

Questionnaire

Instruction: Please tick [X] as appropriate.

SECTION A.

Instruction: Mark X in the box as appropriate [X]

1. Age category in years: Under 15 [] 15–17 [] 18–20 [] above 20 []
2. Gender: Male [] Female []
3. Class: SS1 [] SS^{II} [] SS3 []
4. School [] Edokpolor [] Akenzua II [] Ihogbe [] ICC [] Niger [] Nosakhare [] Gaius Obaseki [] Aka [] High Tower [] University Preparatory (UPSS) []

SECTION B

Instruction: Please tick (X) as appropriate. NA means “Not Applicable”.

S/N	Item	Response							
		1	2	3	4	5	6	7	8
Indicate the number of periods taught on:									
Q1	Mondays								
Q2	Tuesdays								
Q3	Wednesdays								
Q4	Thursdays								
Q5	Fridays								

- Q6. On the average how will you describe the teachings? inadequate [] fairly adequate [] Adequate []
- Q7. If given the chance, will you like to change to another school? No [] No view [] Yes []
- Q8. Do you intend to enrol your SSCE in your current school? No [] No view [] Yes []
- Q9. What is the number of students in your class? Less than 30 [] 31–50 [] 51–70 [] 71–90 [] 91–110 [] 111–130 [] 131–150 []
- SOURCE: Constructed by Authors (2019).

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