Influence of Human Capital Development on Teachers’ Productivity in Public Secondary Schools in Bayelsa State

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ABSTRACT
This study investigated the influence of human capital development on teachers’ productivity in public secondary schools in Bayelsa State. Three research questions and three hypotheses guided the study. The study adopted descriptive survey design. The population for the study was 5000 teachers from the 216 public secondary schools in Bayelsa State. The sample size of 370 respondents’ (218 male and 152 female teachers) was drawn through the use of Taro-Yamane’s formula. The stratified sampling technique was adopted to select the respondents and the schools, for the study. The instrument for the study was self-structured questionnaire titled “Influence of Human Capital Development on Teachers’ Productivity Questionnaire”, using a four point rating scale. The content and face validity of the instrument was ascertained by two experts in Measurement and Evaluation / psychometricians in the Faculty of Education, Rivers State University. Cronbach Alpha method was used to obtain reliability indices of 0.91, 0.90, 0.88, 0.99, 0.85 and 0.92 with the grand mean (\( \bar{r} \)) of 0.91 respectively. Descriptive statistics of mean (\( \bar{x} \)), and standard deviation (std) were used to answer the research questions, while t-test statistics was used to test the hypotheses at 0.05 level of significance. The findings of the study revealed that; classroom visitations, in-service training, and engagement in research publication activities to a high extent influence teachers’ productivity in Bayelsa State. In view of the findings of the study it was recommended by the researcher that government through the auspices of Post Primary Schools Board draw policies, create enabling environment and encourage teachers to participate in in–service training and to be involved in research publications. Equally it was further recommended that principals or school-heads should maintain a regular classroom visitation programmes to identify teachers that are deficient in certain areas in their field of studies and recommend such teacher(s) for training from time to time.

Keywords: Human capital, Development, Teachers, Productivity, Visitation, Supervisor, Classroom, In-service training

INTRODUCTION
The world in these contemporary times is experiencing revolutionary changes in every facet of human endeavor, as a result of continuous innovations brought about by Information and Communication Technology (ICT). Some of these man orchestrated changes could be on the negative side, while others maybe on the positive side. According to Oluwuo (2014) for any positive change to happen, it takes some deliberate act of subjecting one’s self to training and development in line with the expected change to achieve a better result. The recurring decimal of changes are equally visible in the educational setting,
particularly in the way and manner knowledge is imparted in the school system, ranging from school facilities, subject of study, curriculum development to teaching methods. Amie-Ogan (2018) stated that, teachers in the school system are the basic agents of change, that inculcate the sense of best standard practices, norms and values on the students to change, transformed and be absorbed or assimilated into the work force in the society. Human capital in the school system includes: the teaching staff, non-teaching staff and the students. The teachers are essentially saddled with the responsibility of effecting positive changes in the students’ life, both in character and in learning. Amaewhule (2006) stated that, learning involves teaching a particular skill for specific purpose or a training that is directed to the acquisition of motor skills, development and change of complex social, emotional attitudes. Training given to human capital involves the development of the whole personality, both intellectually and physically. Hence, development on the other hand, has to do with employees being provided with appropriate experiences, skills and attitude to enable them become or remain successful workers in the organization.

In this regard, Eric-Amadi (2018) reported that with the establishment of the first missionary school in 1842 in Badagry, Lagos, the missionaries used administration supervisory method to improve and develop their teaching staff through the catechist. He further stated that in 1960, when Nigeria got her independence, the development of human capital in the school system took a new dimension to cover the areas of records keeping, school finance, intra and extra- mural activities, school facilities, and to ensure that teachers were doing their work with best standard practice. According to Ojiako (2014) human capital needs to be developed, when the following contour lines are visibly seen: (a) where there are different jobs or new jobs are initiated. (b) When the employment of new staff or additional knowledge is required for a job. (c) When the deployment of employee is under or over estimated. (d) When there is need for promotion to a new position of operation. Human capital development is all about identifying nurturing; managing and using the abilities demonstrated by employee in order to the help the company to attain its objectives. According to Kwon (2009) human capital is the framework that ensures the successful management of employees to ensure that they use their skills, abilities and knowledge in a bid to ensure productivity and effectiveness of a firm. In a school setting human capital development implies the use of training programme to develop and motivate the faculty as well as institution’s subordinate staff. It involves the application of various training programmes as well as career development strategies that are put in place to ensure improvement in the performance of an employee or a group of employees.

Human capital development is a comprehensive approach to human resource management that focuses more on finding ways to ensure optimal productivity, while maintaining high levels of employee’s retention. The productive job performance of teachers is essential for the success of the school system. Wey-Amaewhule and Okenema (2022) posited that professional development refers to skills and knowledge attained for personal development and career advancement. Hence, the need for human capital development aims at improving the productivity of individuals at work and for the greater responsibilities. Secondary school teachers constitute an important factor in the implementation of secondary school curriculum. According to Adawo (2018) the quality of teacher is known to be a key predictor of students’ performance in their examinations. Adeniji (2014); Wey- Amaewhule and Amie-Ogan (2023) stated that human capital development, through in-service training, seminars and workshops offer one of the most promising ways of improving classroom instructions. The germane fact remains that, a teacher cannot teach more than what he has known or learned. According to Uche (2020) educational system cannot rise above the quality of its teachers, as a result the National Policy on Education (2004) placed premium emphasis on the quality of teachers in terms of qualification, motivation and commitment to ensure high productivity. To Berry as cited in Salleh and Tan (2013) teachers’ competence elicit students’ potentials and foster the mastering of subjects content, while analyzing, synthesizing, evaluating to promote information.

Consequent upon the foregoing, teaching profession is not for all comers job, which is why; it is an error for anyone who failed to secure employment elsewhere to find resort to teaching job for survival reasons. Dimkpa as cited in Ojiako (2014) opined that untrained teachers employed to do the teaching job could
also be attributed to the poor productivity of teachers. Hence, Teachers Registration Council (TRCN) has taken it as a responsibility to ensure that teachers are properly trained before engaging in the teaching profession, i.e. a person who possesses dignity and reputation with high moral values as well as technical and professional competence. This implies that a teacher and his adherence to continuous development make him or her productive.

The concept of productivity has been variously defined by authors in their own viewpoints and understanding. However, Cambridge Dictionary (2024 n.ed), defined productivity as the rate at which a country, company etc, produces goods or services usually judged in relation to the number of people and time. Hence, teacher’s productivity is all about how well the teacher does his work to the realization of the aims and objectives of education. Dunckin as cited in Ojiako (2014) stated that teacher productivity is essentially concerned with how best a teacher can bring about the desired learning outcome in the learner by some educational set standards. It takes the use of appropriate study materials, teaching techniques and skills among the existing several methods. Uwatt as cited in Ojiako (2014) emphasized the importance of using diverse teaching methods, which could be formal or informal selected from strategically designed body of instructions. Productivity is said to be the ability to use innovative ideas and resourcefulness in planning lessons, device instructional materials and classroom control. The expected goals a teacher should achieved is spelt out by the school establishing authorities such as, Ministry of Education, legislation and other officials set up by the government.

**Influence of Supervisor Classroom Visitation on Teachers’ Productivity:**
Supervisor class room supervision is one of the major developmental activities available to teachers, Abraham (2013) categorically pointed out that, classroom visitation is a process by which the supervisor visits the school, enter the class room, and seat down, while the teacher is still teaching the students, to watch and observe the teacher and students in action. That is, it is a live systematic observation of the teacher at work, so as to know how he or she teaches, manages and controls the students in the classroom. The supervisor focuses on the teacher's job performances more than planning and presentation of the lesson. He carefully observes the teachers’ decorum, voice, speech pattern, clarity and language habit and the use of right language. The supervisor also observes the relationship that exist between the teacher and the students, students’ active participation in the lesson in terms of how they answer or respond to questions, the instructional materials and methods used to determine whether or not they are appropriate, classroom management, teacher personality and knowledge or mastering of the content of the subject, because all these are indices of productivity.

Instructional classroom visitation is one of the oldest methods discerned to improve the teaching-learning mechanism in school system. Instructional supervision become stronger in Nigeria, when government took over the ownership of schools in 1970, of which the work of supervision became vested on the superintendents and the assistant zonal/area inspector of schools, who are professional teachers appointed by government. The sole aim and objective of instructional classroom visitation is to measure or determine the pace the teachers is making in his duty and see how he can improve on it to make healthy delivery or performance in his job of teaching. According to Olele (2009) the basic reason for school inspection or supervision is to assist the teacher to device better ways of stimulating and guiding their students’ learning behavior to enhance their academic performances.

Hence, it is intended that the supervisor's classroom visitation is to observe, advice, guide, direct and stimulate the teacher and students to improve the learning outcome to achieve the expected educational goals.

**Influence of In-service Training on Teachers’ Productivity:**
In-service training is an attempt to improve staff productivity through continuing education courses, meetings and study groups, lectures and personnel reform. Obisi and Anyim (2013) had it to say that, training of employee for productive job performance became an issue of concern that raised questions to policy and decision makers. In fact, they portended that better training procedures for employees, results in affective, continuance and normative commitment in public organization. In-service training according to Adetayo (2018) is the educational opportunities to help the staff to improve themselves in their
professions, for all personnel in the work fields to make them productive. Also Ampomah (2016) saw in-service training programme as a process for continuous updating of teachers’ knowledge, skills and interest in a chosen field of study. It is a means of continuous professional growth which encourages the extension of technical assistance by teacher educators.

Jamil et-al (2010) stated that, in order to have optimal productivity in in-service training, it is always directed to the development of individual teacher to play his or her role and carry out responsibilities optimally for the attainment of quality service delivery. The programme focus may equally include; understanding classroom management, lesson organization, recording and reporting students’ work achievement, teaching skills, changing mode of teachers’ behaviour and attitude to work, teachers’ administration, material resources management and students management.

According to Adeniji (2010) some of the professional organizations and agencies that have contributed immensely to in-service training includes; Macarthur foundation, African Economic Research Consortium, and Morterson Centre for International Libraries, Nigerian Union of Teachers (NUT), Industrial Training Fund (ITF), Education Trust Fund (ETF) etc. The National Policy on Education (NPE) (2004), emphasized the need that all teaching staff in educational institutions to be professionally trained. It was revealed by Olalekan (2009) that, both academics and non – teachers are expected to be trained, but in reality only the teachers benefits or are privileged to undertake such developmental training. Hence, to achieve sustainable creativity, innovative work force and high quality services the school management is expected to develop complex strategic planning through the process of in-service training that will resolve personal and institutional needs. Wey-Amaewhule and Okenema (2022) were of the view that, in order to make proper upgrade of resources possible most especially the human capital, development programmes must be entrenched upon to avail them with the necessary skills that will enable them discharge their responsibilities efficiently. Ojiako (2014) stated that in-service training technique is one of the good methods of supervision, wherein the teacher will be made to go and learn either in the factory, organization or institution that deals on the said subject-matter for a period of time, and after training he or she comes back to the school and put into practice, all that he or she had learned during the training.

Mustafa and Othman (2020) maintained that in-service training comprise all activities engaged in, by professional personnel during their service and is designed to contribute to professional improvement on the job. It is a means of assisting poorly prepared, untrained and inexperienced teachers to improve both academically and professionally.

**Influence of Engagement in Research Publication on Teachers’ Productivity:**

Research publication method of training is described as systematic and plausible attempt to provide answers to questions. Publication of research work is also a way of enhancing the social mission of the school in its region through cluster of collaborations with local readers. Sitieni (2009) stated that writing proper research is both a challenge and satisfaction and can bring about prestige, recognition, wealth and accelerated development of carrier life. Research and publishing can also results to teaching and consultancy services. Over the years, experiences had shown that research and publications made by staff is an important factor in evaluation and essential requirements for promotion. Ajayi (2014) stated that academic researches and publications are the most significant indicators of productivity. Research and publication techniques of development demands that, teachers apart from doing their own researches, are expected to buy and read books, journals, periodicals, magazines and any other book materials that have been written down by professionals or resource persons, to improve on their educational status. According to Purcell et-al (2003) productivity depends on having the right mix of the skills, abilities, motivation and potentials so as to achieve the intended goals of the institutions. That is, the more skillful a teacher becomes in research publication, the higher the level of productivity he or she demonstrates.

Adelakun (2011) was of the compromising view that, individuals with higher level of training are more confident and feel less at risk, because they know what to do at such times. At the secondary school level, the management counts it very important for every employee to improve on him or herself at every given point in time by finding solution to educational problem.
In a nutshell, academic research and publication are considered to be major sources to knowledge and innovation. According to Olele (2009), research publication is a method wherein the supervisor helps the teacher to set up an inquiring process in order to find the best way to solve an educational problem. Educational Research is the work of specialists in the school system, and special bureau of educational research. Olele further stated that, Nigerian Institute of Educational Research, are bodies that are saddled with the duty of finding solution to problem areas in education. In a similar vein, research technique of training can adopt the same method to find solution to limitations and challenges a teacher may be having in the discharging of his duty, in and outside the classroom. The essential reason for the collaborative working together of the supervisor and the teacher in this respect is to address some lapses and challenges; hence, the most appropriate method to come by a solution is through research method. The supervisor can help the teacher in the formulation and identification of the problem, gather information about the problem through existing literature, preparation of research questions, propose hypotheses, presentation and analysis of data, interpretation of findings, drawing conclusion and making of recommendations on the way forward.

Statement of the Problem
The demand for training and retraining of teachers in public secondary schools has become high in recent times, because it is the only way through which students can cope with the current electronic driven educational system. The National Policy on Education (2004) specifically provided that teachers’ education shall continue to take cognizance of changes in the school system and they shall regularly be exposed to innovations in their profession. According to Olele (2009), some of the plausible means through which human capital (teachers) in the school system can be developed are in the following categories; Supervisor classroom visitation, in service training, and research publication engagement. However, it has been noted that untrained and inexperienced teachers exhibit lackadaisical attitude in the performance of their duties. He further said many teachers do not know how to prepare good lesson notes / lesson plans, they lack the ability to manage students in the classroom, frequent late coming to school or absent from school without good reason, use of unguided language pattern in communication, are unable to make appropriate use of instructional materials, lack standardized test evaluation tools and involvement in external examination malpractices or allow students to cheat in internal examination. These negative syndromes evidently showed that teachers have failed in their responsibilities for which they are employed. The question one will pause to ask is:-Will engagement in human capital development influence the productivity of teachers in public secondary schools in Bayelsa State? Providing answer to this question forms the basic problem of this study.

Purpose of the Study
The purpose of the study is to examine the influence of human capital development on teachers’ productivity in public secondary schools in Bayelsa State. Specifically, the study seeks to establish the following objectives:-
1. Find out the extent to which supervisor classroom visitation influences teachers’ productivity in public secondary schools in Bayelsa State.
2. Ascertain the extent to which in-service training influences teachers’ productivity in public secondary schools in Bayelsa State.
3. To determine the extent to which engaging in research publication influences teachers’ productivity in public secondary schools in Bayelsa State.

Research Questions
The following research questions were asked to guide the study:
1. To what extent does supervisor classroom visitation influence teachers’ productivity in public secondary schools in Bayelsa State?
2. To what extent does in-service training influence teachers’ productivity in public secondary schools in Bayelsa State?
3. To what extent does engaging in research publication influence teachers’ productivity in public secondary schools in Bayelsa State?
Hypotheses
The following null hypotheses were tested in the study at 0.05 level of significance.
1. There is no significant difference in the mean responses of male and female teachers on the extent to which supervisor classroom visitation influences their productivity in public secondary schools in Bayelsa State.
2. There is no significant difference in the mean responses of male and female teachers on the extent to which in-service training influences their productivity in public secondary schools in Bayelsa State.
3. There is no significant difference in the mean responses of male and female teachers on the extent to which engaging in research publication influences their productivity in public secondary schools in Bayelsa State.

METHODOLOGY
Design of the Study
The study adopted descriptive survey design, which involves collection of data and describing them. Obilor (2018) stated that descriptive survey design gathers a large variety of information from a sample of well-defined population for analysis, synthesis and generalization to the entire population. On that note descriptive survey design was considered appropriate to be adopted in this study.

Population of the Study
The population for the study comprised of 5000 teachers (3210 male teachers and 1790 female teachers) in the public secondary schools in the 216 government owned secondary schools in the eight Local Government Areas in Bayelsa State; Via Brass, Nembe, Ogbia, Yenagoa, Southern Ijaw, Kolokuma Opokuma, Sagbama and Ekeremor Local Government Areas, having a total of 216 public secondary schools.

Sample and Sampling Technique
The sample size for the study comprised of 370 respondents (218 male teachers and 152 female teachers) which was drawn using Taro Yamane’s formula from 5000 population. Taro Yamane’s formula is used to calculate the sample size based on the desired level of population size and to assume equal probability of selection of each unit in the population (Islam, 2018). Taro Yamane is also used to account for the margin of error which indicates how far data are allowed to deviate from the population mean to maintain a 95% confidence level. In this study the precision or sampling error was set at ±5% and the acceptable number of respondents to be 370. Stratified sampling technique was used to select the sampled schools and the respondents. That is, out of the 216 public secondary schools in Bayelsa State 37 schools were selected across all the public secondary schools in State. Then from the 37 schools ten teachers were selected from each school making a total of 370 teachers/respondents and were used for the study.

Research Instrument
A self – structured questionnaire was used to elicit data from the selected respondents. The questionnaire titled ‘Influence of Human Capital Development on Teachers’ Productivity Questionnaire’ (IHCDTPQ). The questionnaire was divided into two parts. Section ‘A’ was demographic information of the respondent, while section ‘B’ is the questionnaire containing 30 questions on general information on the Influence of Human Capital Development on Teachers’ productivity in Public Secondary Schools in Bayelsa State. The extent of teachers’ productivity was measured based on their performances on interacting with the moderating variables. The instrument was drafted and coded using a four-point scale of Very High Extent (VHE) = 4 points male and female teachers, High Extent (HE) = 3 Points, Low Extent (LE) = 2 Points and Very Low Extent (VLE) =1 point

Administration of the Instrument
The 30 items questionnaire titled- ‘Influence of Human Capital Development on Teachers’ Productivity Questionnaire’ (IHCDTPQ), was administered on the respondents, to elicit information from them. Two research assistants were taken, one from the Post Graduate School, Department of Educational Management, Rivers State University and one other person from each of the schools involved in the study. The utilization of the Research Assistants was to enhance the administration of the instrument on
the respondents and retrieval after filling. One month was used in the administration and collection of the questionnaire. All the 370 copies that were administered were retrieved and used for the data analysis.

**Data Analysis Technique**

The analysis of data was done based on the use of mean (\(\bar{x}\)) and standard deviation (std) to answer the research questions, while t-test statistics was used to test the null hypotheses. The choice of t-test to test the hypotheses was based on the fact that t-test has table values which make it possible for comparing the independent and dependent variables in the study. Data were gathered from the respondents, collated, hand-scored on a raw data sheet for analysis. The for the Research Questions decision of an extent in an item was that if the mean (\(\bar{x}\)) score was, from 1.00 - 1.49 the item was regarded as very low extent, 1.50 – 2.49 low extent, 2.50 - 2.39 high extent, but will be considered very high extent if the mean(\(\bar{x}\)) score was 3.00 and above. The criterion means was computed based on the four-point scale.

That is \(4 + 3 + 2 + 1 = \frac{10}{4} = 2.50\)

The null hypotheses were tested using t-test statistics at 0.05, level of significance. The null hypothesis was accepted if the t – calculated was less than the value of t – critical at 0.05 level of significance, but was rejected where the t – calculated value is greater than the t – critical value.

**RESULTS**

**Research Question 1:** To what extent does supervisor classroom visitation influence teachers’ productivity in public secondary schools in Bayelsa State?

**Table 1:** Mean and standard deviation of responses on supervisor classroom visitation influence on teachers’ productivity in public secondary schools in Bayelsa State.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Items</th>
<th>Male Teachers</th>
<th>Female Teachers</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N = 218</td>
<td>N = 152</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(\bar{x})</td>
<td>std</td>
<td>(\bar{x})</td>
</tr>
<tr>
<td>1.</td>
<td>When a supervisor is in class to observe a teacher, the teacher will adopt teaching method that will make student to understand the topic being taught</td>
<td>2.14</td>
<td>0.96</td>
<td>LE</td>
</tr>
<tr>
<td>2.</td>
<td>When a supervisor is to visit a class, the teacher will prepare a good lesson note and lessons plan for effective teaching delivery.</td>
<td>3.14</td>
<td>0.88</td>
<td>VHE</td>
</tr>
<tr>
<td>3.</td>
<td>When a supervisor is present in a class the teacher concerned will endeavor to ensure effective management of the teaching learning- learning interaction in the class.</td>
<td>3.00</td>
<td>0.99</td>
<td>VHE</td>
</tr>
<tr>
<td>4.</td>
<td>The visit of a supervisor makes a teacher to be punctual to school and avoid late coming.</td>
<td>3.18</td>
<td>0.91</td>
<td>VHE</td>
</tr>
<tr>
<td>5.</td>
<td>A visiting supervisor helps teachers to prepare a good evaluation tools for tests and examinations.</td>
<td>3.11</td>
<td>0.99</td>
<td>VHE</td>
</tr>
<tr>
<td></td>
<td>Aggregate Mean</td>
<td>3.09</td>
<td>0.95</td>
<td>VHE</td>
</tr>
</tbody>
</table>
The results in table 1 above showed that when a supervisor is in class to observe a teacher, the teacher will adopt teaching method that will make student to understand the topic being taught, with $\bar{x} = 2.14$, std = 0.96 and $\bar{x} = 3.24$, std = 0.94; when a supervisor is to visit a class, the teacher will prepare a good lesson note and lessons plan for effective teaching delivery, with $\bar{x} = 3.14$, std = 0.88 and $\bar{x} = 3.24$, std = 0.89; when a supervisor is present in a class the teacher concerned will endeavor to ensure effective management of the teaching learning- learning interaction in the class, with $\bar{x} = 3.00$, std = 0.99 and $\bar{x} = 3.04$, std = 1.06; the visit of a supervisor makes a teacher to be punctual to school and avoid late coming, with $\bar{x} = 3.18$, std = 0.91 and $\bar{x} = 3.22$, std = 0.95; a visiting supervisor help teachers to prepare a good evaluation tools for tests and examinations, with $\bar{x} = 3.11$, std = 0.99 and $\bar{x} = 3.21$, std = 0.91. The aggregate mean responses of 3.09 and 3.19 are greater than the criterion 2.50, which means that both the male and female respondents confirmed that to a very high extent supervisor classroom visitation influences teachers’ productivity in public secondary schools in Bayelsa State.

**Research Question 2: To what extent does in-service training influence teachers’ productivity in public secondary schools in Bayelsa State?**

**Table 2: Mean and standard deviation of responses on in-service training influence on teachers’ productivity in public secondary schools in Bayelsa State.**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Items</th>
<th>Male Teachers N = 218</th>
<th>Female Teachers N = 152</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In-service training makes a teacher to master or understand new skills that he had not known before in his or her schooling days.</td>
<td>$\bar{x} = 3.06$, Std = 1.07</td>
<td>$\bar{x} = 3.30$, Std = 0.98</td>
</tr>
<tr>
<td>2</td>
<td>In-service training helps teachers to utilize modern instructional materials for creative teaching of their students.</td>
<td>$\bar{x} = 3.23$, Std = 0.85</td>
<td>$\bar{x} = 3.03$, Std = 0.97</td>
</tr>
<tr>
<td>3</td>
<td>In-service training helps a teacher to have senior academic friends that could advise them on the best way of doing the teaching work effectively.</td>
<td>$\bar{x} = 3.14$, Std = 0.86</td>
<td>$\bar{x} = 3.11$, Std = 0.97</td>
</tr>
<tr>
<td>4</td>
<td>In-service training enable a teacher to learn the use of modern instructional methods in teaching, thereby making him or her productive.</td>
<td>$\bar{x} = 3.20$, Std = 0.84</td>
<td>$\bar{x} = 3.26$, Std = 0.90</td>
</tr>
<tr>
<td>5</td>
<td>In-service training enhances a teacher’s career improvement in the area of his discipline for higher responsibilities.</td>
<td>$\bar{x} = 3.09$, Std = 0.96</td>
<td>$\bar{x} = 3.24$, Std = 0.88</td>
</tr>
<tr>
<td></td>
<td><strong>Aggregate Mean</strong></td>
<td><strong>3.14, 0.92</strong> VHE</td>
<td><strong>3.19, 0.94</strong> VHE</td>
</tr>
</tbody>
</table>

The results in table 2 above showed that, in-service training makes a teacher to master or understand new skills that he had not known before in his or her schooling days, with $\bar{x} = 3.06$, std = 1.07 and $\bar{x} = 3.30$, std = 0.98; in-service training helps teachers to utilize modern instructional materials for creative teaching of their students, with $\bar{x} = 3.23$, std = 0.85 and $\bar{x} = 3.03$, std = 0.97; in-service training helps
a teacher to have senior academic friends that could advise them on the best way of doing the teaching work effectively, with $\bar{x} = 3.14$, std = 0.68 and $\bar{x} = 3.11$, std = 0.90; in-service training enable a teacher to learn the use of modern instructional methods in teaching, thereby making him or her productive, with $\bar{x} = 3.20$, 0.84 and $\bar{x} = 3.26$, 0.90; in-service training enhances a teacher’s career improvement in the area of his discipline for higher responsibilities, with $\bar{x} = 3.09$, 0.96 and $\bar{x} = 3.24$, 0.88. The aggregate mean responses of 3.18 and 3.26 are greater than the criterion mean of 2.50, which means that both the male and female respondents confirmed that to a very high extent in-service training influences teachers’ productivity in public secondary schools in Bayelsa State.

**Research Question 3:** To what extent does engaging in research publication influence teachers’ productivity in public secondary schools in Bayelsa State?

**Table 3: Mean and standard deviation of Responses on engaging in research publication influence on teachers’ productivity in public secondary schools in Bayelsa State**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Items</th>
<th>Male Teachers N = 218</th>
<th>Female Teachers N = 152</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$\bar{x}$</td>
<td>Std</td>
</tr>
<tr>
<td>1</td>
<td>Teachers involvement in making research on educational issues makes them innovative and productive.</td>
<td>3.07</td>
<td>0.99</td>
</tr>
<tr>
<td>2</td>
<td>Teacher by involving in research work creates a sense of accountability in the teaching learning process.</td>
<td>3.08</td>
<td>0.95</td>
</tr>
<tr>
<td>3</td>
<td>Teacher involvement in research work makes him or her to be creative by developing new ideas in the teaching-learning interacting.</td>
<td>3.17</td>
<td>0.83</td>
</tr>
<tr>
<td>4</td>
<td>The publication of teachers’ well researched work creates a positive motivational factor of self-esteem for better performance in the teaching job.</td>
<td>3.25</td>
<td>0.82</td>
</tr>
<tr>
<td>5</td>
<td>Teachers’ involvement in making researches on educational issues makes them to acquire several educational materials published by other experts to direct his or her performance in the job.</td>
<td>3.22</td>
<td>0.83</td>
</tr>
</tbody>
</table>

**Aggregate Mean** 3.16 0.88 VHE 3.22 0.93 VHE

The results in table 3 above showed that, teachers involvement in making research on educational issues makes them innovative and productive, with $\bar{x} = 3.07$, 0.99 and $\bar{x} = 3.22$, 0.95; teacher by involving in research work creates a sense of accountability in the teaching learning process, with $\bar{x} = 3.08$, 0.95 and $\bar{x} = 3.27$, 0.99; teacher involvement in research work makes him or her to be creative by developing new ideas in the teaching-learning interacting, with $\bar{x} = 3.12$, std = 0.83 and $\bar{x} = 3.28$, std = 0. 87; the publication of teachers’ well researched work creates a positive motivational factor of self-esteem for better performance in the teaching job, with $\bar{x} = 3.25$, std = 0.82 and $\bar{x} = 3.18$, std = 0.92; teachers’ involvement in making researches on educational issues makes them to acquire several educational materials published by other experts to direct his or her performance in the job, with $\bar{x} = 3.22$, std = 0.83 and $\bar{x} = 3.15$, std = 0.94. The aggregate mean responses of 3.16 and 3.22 are greater than the criterion
mean of 2.50, which means that both the male and female respondents confirmed that to a very high extent engaging in research publication influences teachers’ productivity in public secondary schools in Bayelsa State.

**Test of Hypotheses**

**Hypothesis 1**

There is no significant difference in the mean responses of male and female respondents on the extent supervisor classroom visitation influences their productivity in public secondary schools in Bayelsa State.

**Table 4: T-test of mean responses of male and female respondents on the extent supervisor classroom visitation influences their productivity in public secondary schools in Bayelsa State**

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>$\bar{x}$</th>
<th>Sd</th>
<th>Df</th>
<th>$t$-cal</th>
<th>$t$-crit</th>
<th>$\alpha$</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Teachers</td>
<td>218</td>
<td>3.09</td>
<td>0.95</td>
<td>368</td>
<td>0.10</td>
<td>1.96</td>
<td>0.05</td>
<td>Failed to reject</td>
</tr>
<tr>
<td>Female Teachers</td>
<td>152</td>
<td>3.19</td>
<td>0.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table above indicated that $t$–calculated value of 0.10 is less than the critical value of 1.96 for the degree of freedom of 368, $P = 0.32 > \alpha = 0.05$, level of significance (for two tail test). Hence, hypothesis 1 is accepted, which implies that there is no significant difference in the mean responses of male and female teachers on the extent supervisor classroom visitation influences teachers’ productivity in public secondary schools in Bayelsa State.

**Hypothesis 2**

There is no significant difference in the mean responses of male and female respondents on the extent in-service training influences their productivity in public secondary schools in Bayelsa State.

**Table 5: T-test analysis of mean responses of male and female teachers on the extent in-service training influences their productivity in public secondary schools in Bayelsa State**

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>$\bar{x}$</th>
<th>Sd</th>
<th>Df</th>
<th>$t$-cal</th>
<th>$t$-crit</th>
<th>$\alpha$</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Teachers</td>
<td>218</td>
<td>3.14</td>
<td>0.92</td>
<td>368</td>
<td>0.50</td>
<td>1.96</td>
<td>0.05</td>
<td>Failed to reject</td>
</tr>
<tr>
<td>Female Teachers</td>
<td>152</td>
<td>3.19</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table above indicated that $t$–calculated value of 0.50 is less than the critical value of 1.96 for the degree of freedom of 368, $P = 0.61 > \alpha = 0.05$, level of significance (for two tail test). Hence, the null hypothesis 2 is accepted, which implies that there is no significant difference in the mean responses of male and female teachers on the extent in-service training influence teachers’ productivity in public secondary schools in Bayelsa State.

**Hypothesis 3**

There is no significant difference in the mean responses of male and female respondents on the extent engaging in research publication influences their productivity in public secondary schools in Bayelsa State.

**Table 6. T-test analysis of mean responses of male and female teachers on the extent engaging in research publication influences their productivity in public secondary schools in Bayelsa State.**

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>$\bar{x}$</th>
<th>Sd</th>
<th>Df</th>
<th>$t$-cal</th>
<th>$t$-crit</th>
<th>$\alpha$</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Teachers</td>
<td>218</td>
<td>3.16</td>
<td>0.88</td>
<td>368</td>
<td>0.62</td>
<td>0.96</td>
<td>0.05</td>
<td>Failed to reject</td>
</tr>
<tr>
<td>Female Teachers</td>
<td>152</td>
<td>3.22</td>
<td>0.93</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table above indicated that $t$ –calculated value of 0.62 is less than the critical value of 1.96 for the degree of freedom of 368, $P = 0.53 > \alpha = 0.05$, level of significance (for two tail test). Hence, the null hypothesis 3 is accepted, which implies that there is no significant difference in the mean responses of
male and female teachers on the extent engagement in research publication influence their productivity in public secondary schools in Bayelsa State.

**DISCUSSION OF FINDINGS**

The results for research Question 1, which was presented on table 1 showed that supervisor classroom visitation influences teachers’ productivity in public secondary schools in Bayelsa State, with the aggregate mean values of 3.09 and 3.19. Equally, in the hypothesis results presented on table 4 showed that there is no significant difference in the mean responses of male and female teachers on the extent supervisor classroom visitation influences their productivity in public secondary schools in Bayelsa State, with the t – calculated value of 0.10 which is less than the critical value of 1.96, for the degree of freedom of 368 at 0.05 level of significance. The fact remain that, the essence of supervisor classroom visitation is to ensure that teachers are counseled, guided and advised on the best method of performing his or her duties. This falls in line with the view of Olele (2009), who stated that, the basic reason for supervisor classroom visitation is to assist the teacher to device better ways of stimulating and guiding their students’ to learn, understand and excel in their examinations, which invariably enhances their (teacher) productivity.

The results for Research Question 2, which was presented on table 2 showed that, in-service training influence teachers’ productivity in public secondary schools in Bayelsa State, with the aggregate mean values of 3.14 and 3.19. Equally, the hypothesis results presented on table 5 showed that, there is no significant difference in the mean responses of male and female teachers on the extent to which in-service training influence their productivity in public secondary schools in Bayelsa State, with the t – calculated value of 0.50 which is less than the critical value of 1.96, for the degree of freedom of 368 at 0.05 level of significance. The fact remains that, in-service training is an activity to improve teachers’ competences through continuing education courses, meetings and study groups, visits, lectures and personnel reform to enhance their (teacher’s) productivity. This fall in line with the proposition of Adetayo (2018), who stated that, in-service training as an educational opportunity provided to help teachers to improve themselves in the teaching profession, which makes them productive.

The results for Research Question 3, which was presented on table 3 showed that, engaging in research publication influences teachers’ productivity in public secondary schools in Bayelsa State, with the aggregate mean values of 3.16 and 3.22. Equally, the hypothesis results presented on table 6 showed that there is no significant difference between the mean responses of male and female teachers on the extent to which teachers engaging in research work publications influence their productivity in public secondary schools in Bayelsa State, with the t – calculated value of 0.62, which is less than the t- critical value of 1.96, for the degree of freedom of 368 at 0.05 level of significance. The fact remains that, research work and paper publication are systematic and plausible attempt to provide answers to educational questions, which in turn enhances the social mission of the school through cluster of collaborations with local readers. This position is in line with the statement of Sitienci (2009), who asserted that, writing properly researched paper and publishing is both a challenge and satisfaction and can bring about prestige, recognition, wealth and accelerated carrier life of teachers, resulting into productivity.

**CONCLUSION**

Consequent upon the findings of this study the researcher came to the conclusion that human capital development influence teachers’ productivity. Hence, various developmental activities like; supervisor classroom visitation, in service training and engagement in research publication to a high extent influence teachers’ productivity in public secondary schools in Bayelsa State.

**RECOMMENDATIONS**

Having made extensive and elaborate discussions on the results of the findings of the study, the following recommendations were made.
1. The School Management Board and the principal should from time to time organize supervision of teachers in the classroom through regular visitations to identify teachers that are deficient in their subject areas for training on the best methods of teaching and classroom management.

2. Government through the auspices of the Post Primary Schools Board should draw policies and create enabling environment and encourage teachers to be involved in in-service training from time to time.

3. The School Management Board should establish research and publication centres in various schools in the state and encourage teachers to be involved in doing research work on education related problems and to publish such researched work in journals, periodicals or in book form.

REFERENCES


