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### Teachers Pedagogical Practices Vis-A-Vis Academic Achievement of SeniorHigh School Students in Ada East District, Ghana



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Abstract: The study sought to establish the relationship between teachers' pedagogical practices and Senior High School (SHS) students' academic achievement in Ada East District of the Greater Accra Region, Ghana. The cross-sectional survey research design was adopted for the study. The census method was used to select all the 126 teachers in the district while 126 students were also selected from a population of 1294 using the stratified proportionate and simple random sampling techniques. Four hypotheses were formulated to guide the study. Pearson Product Moment Correlation was used to test the first two hypotheses while Independent-Sample T-test and One-Way ANOVA were used to test the third and fourth hypotheses respectively. The result revealed that there was a statistically significant positive weak relationship between teachers' competence in planning and preparation and students' academic achievement. There was also a positive weak relationship between teachers' pedagogical responsibilities and students' academic achievement. Furthermore, both male and female teachers demonstrated similar pedagogical practices and finally the study established that significantly, the pedagogical practices of teachers statistically differed based on their teaching and professional qualification. Recommendations were made on how teachers could improve upon their pedagogical practices to enhance the academic achievements of their students.

Key Words: Pedagogical Practice, Academic Achievement, Planning and Preparation, Professional Responsibility

#### Introduction

Lesson preparation competence of teachers is often not adapted to the variety in learners' pre-existing knowledge and skills (Kibret, 2016). Students' academic performance is explained as the score obtained from the continuous assessment of students whereas achievement is the overall performance of the students over an entire assessment procedure (Dzakadzie, 2015). This means that at every point in time, teachers have a significant role to play in the instructional process as the main curriculum implementers. Enwelim (2016) establishes therefore that inadequate preparation and teaching experience are the major influential factors that account for students' low achievement when teachers' characteristics are investigated. Danielson (2014) also holds a similar notion that, despite teachers' planning and preparedness for their lessons as shown in their scheme of work and lesson plans, students' academic achievement is still dwindling especially in science-related subjects. Based on Danielson's findings, teachers' professional responsibilities and preparedness could only positively translate into students' academic achievement when teachers hold a positive attitude towards their students and other related stakeholders in academia. The study of Danielson (2014) and Kibret (2016) indicate that teachers need to constantly reflect on differentiating lessons to cater for the differences in the learning abilities of students and to also emphasis on the cognitive initiation of students.

To determine the influence of the 21st-century teachers' conduct and preparedness on students' achievement, Daisy (2015) opines that there is the need for teachers to uphold themselves as professionals with the ethics of effectively communicating feedback to students and dressing in ways that their conduct, styles and attitudes will positively influence students' attitude and values. This notion conforms to the National Teacher Standards (2017) on the mandate of teachers that strategies for teachers' relationship with the learners as expected in the 21st century are substantial for higher academic achievement. Therefore, there is a significant relationship between teachers' attitudes and students' academic performance. For instance, teachers' consistent absenteeism is a major cause of poor performance by students (Baidoo-Anu, 2018). In terms of commitment, Altum (2017) concludes that teachers' commitment to teaching is critical to enhancing students' achievement hence, the instructional competence of teachers precedes students' positive will to participate in-class activities.

As a standard practice, it is expected that teachers' professional responsibilities, instructional competence, planning for the instruction and classroom management need to focus entirely on the wellbeing of the learners as they need to develop their heart,

mind and body. Indeed, teachers' professional responsibilities influence students' academic performance since academic achievement is an accumulated performance.

In furtherance to the professional responsibilities of teachers, an ex-post-facto study conducted by Igberadja (2016) in Delta State, Nigeria found out that teachers' gender and qualification does not have any major influence on students' academic performance, however, Odunaike, Olfos, Goldrine and Estrella (2013) assert that female teachers enforce students' performance more than male teachers. Studies by Chudgar & Sankar (2008) have also found out a relationship between male and female teachers' classroom management competence and their confidence in students' learning ability. Arguably, Kporyi (2019) is of the view that the professionalism of teachers in terms of preparedness, conduct, responsibilities, instructional competence and the effective management of the learning environment to a high extent, translate positively into the academic performance of the students' however, irrespective of the competence of teachers instructional, gender, professional qualification and availability of resources were identified as variables that could impair the outcome of teaching and learning.

One key indicator of quality education and school effectiveness is an academic achievement (Darling-Hammond, & Wentworth, 2010; Danielson, 2013). However, students' academic achievement has become a major concern to many stakeholders of education. For instance, in Ada East District, a large number of students could not enter tertiary institutions because they did not get the entry requirements and this agrees with the revelation of Dinsmore (2012) that efforts made by teachers to help improve students' performance produced less or no result. This is also confirmed by the Chief Examiner's Report of the West Africa Examinations Council (WAEC) from 2015 to 2018 which indicated that the performance of students in the West Africa Senior School Certificate Examination (WASSCE) was just slightly above average. The report recommended that teachers should teach all topics in the syllabus, guide students to write their answers in meaningful sentences and suggested that workshops should be organised for teachers to update their knowledge on ways to teach topics in their various subject areas (WAEC, Chief Examiner's Report, 2017 and 2018 cited by Kporyi, 2019). Studies by Asimeng-Boahene, 2016; Dickson & Okunloye, 2014; Kankam, Bordoh, Eshun, Bassaw & Andoh-Mensah, 2014; Bosu, 2010) to find out the relationship between teachers' pedagogical practices and SHS students' academic achievement revealed that teachers' content knowledge has a significant influence on students' academic performance. No study has however been conducted in Ada East District on teachers' pedagogical practices vis-a-vis academic achievement of SHS students and this suggests that there is a literature gap that needs to be filled hence, it is imperative to investigate the effects teachers' pedagogical practices have on the academic achievement of SHS students in Ada East District.

#### **Purpose of the Study**

This study was to establish the relationship between teachers' pedagogical practices and SHS students' academic achievement in the Ada East District of the Greater Accra Region, Ghana.

Specifically, the study sought to:

- Assess the relationship between teachers' planning and preparation and students' academic performance.
- Establish the relationship between the professional responsibilities of teachers' and SHS students' academic achievement.
- Determine the difference between teachers' pedagogical practices based on gender.
- Ascertain the difference between teachers' pedagogical practices based on their professional qualification.

#### **Hypotheses**

H<sub>0</sub>1: There is no statistically significant relationship between teachers' planning and preparation and students' academic achievement

 $H_02$ : There is no statistically significant relationship between teachers' professional responsibilities of teachers and SHS students' academic achievement.

H<sub>0</sub>3: There is no statistically significant difference between male and female teachers' pedagogical practices.

 $H_04$ : There is no statistically significant difference among teachers on their pedagogical practices based on professional qualification.

#### Methodology

The study adopted the cross-sectional survey research design to establish the relationship between the pedagogical practices of teachers and students' academic achievement. Cohen, Manion and Morrison (2007) opine that the design entitles researchers to analyse research question and to test the hypothesis for generalisation so that inferences can be made about some characteristics, attitudes, and behaviours of the population as recommended by Pallant (2010). The choice of this design was as a result of the notion that teachers' pedagogical practices can best be ascertained through self-reporting instruments like the questionnaire. The census method was used to select all the 126 teachers in the district. The population of the SHS students in the district which was 1294

were grouped into 5 strata (circuits) and 24 students each was selected from four of the stratum using the simple random sample technique. Thirty students were also sampled from the last stratum with simple random sampling to make a sample size of 126 students.

The Teacher Pedagogical Practice Questionnaire (TPPQ) and standardised test items selected from past West African Senior School Certificate Examination (WASSCE) were used for the data collection. The TPPQ was developed based on the Danielson (2013) teacher evaluation instrument (framework). The TPPQ was taken through face, content and constructs validity as well as pilot testing procedures. Peer and expert reviews were performed as recommended by Cohen et al. (2007). The instrument was pilot-tested in Ada West District in the Greater Accra Region. A Cronbach's Alpha Coefficient of reliability estimate (.881) was recorded. Based on the recommendation of Cohen et al. (2007), the instrument was deemed reliable for the actual study.

The data was personally collected by the researchers after all ethical issues such as confidentiality and anonymity were strictly adhered to. In doing so, a consent form was given to each respondent to sign his/her agreement to partake in the study after which the researchers administered the questionnaire on the respondents. The questionnaire was later retrieved from the participants. The collected data were checked for completeness, accuracy, double responses and no responses. The double responses and uncompleted questionnaires were taken out of the data collected and only single responses to items and completed questionnaires were used for the analysis. Pearson Product Moment Correlation was used to test hypothesis 1 and 2 while independent sample t-test and One Way ANOVA were used to test hypotheses 3 and 4 respectively.

#### Results

This section presents the result of the study based on the hypotheses that guided the study.

#### **Hypothesis 1:**

There is no statistically significant relationship between teachers' planning and preparation and students' academic achievement.

Table 1: Pearson's Product Moment Correlation between Teachers' Planning and Preparation and Students' Academic Achievement

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Pedagogical Practice	n	Mean	sd	r	p
Planning and Preparation	126	47.19	7.170	.054	.551
Students' Academic Performance	126	63.60	13.165		

Source: Field survey (2020)

The relationship between planning and preparation and students' academic performance was investigated using Pearson's Product Moment Correlation Coefficient. There was a positive weak relationship between the two variables (r=.054, n=126, p=.551, 2-tailed) with competence in planning and preparation associated with the academic performance of students. The result also indicates .29% shared variance between the two variables. Therefore, there is a relatively weak relationship between the two variables as asserted by Pallant (2010) that when r=.10 to .29 or r=-.10 to -.29, there exists a negative weak relationship. The inference drawn from the statistic test result is that there is a positive but weak relationship between teachers' competence in planning and preparation before the instructional process and students' academic achievement. The null hypothesis which states that there is no statistically significant relationship between teachers planning and preparation students' academic achievement is therefore rejected by the study.

### **Hypothesis 2:**

There is no statistically significant relationship between teachers' professional responsibilities of teachers and shs students' academic achievement

Table 2: Pearson's Product Moment Correlation between Teachers' Professional Responsibility and Academic Achievement

Pedagogical Practice	N	Mean	sd	r	p
Professional Responsibility	126	48.70	8.022	.035	.699
Students' Academic Performance	126	63.60	13.165		

Source: Field survey (2020)

The result presented in Table 2 reveals that there was no statistically significant relationship between teachers' professional responsibility and students' academic performance (r=.035, n=126, p=.699, 2-tailed). The result reveals 12.25% shared variance between the pedagogical competence (professional responsibility) and students' academic performance. This indicates a weak

(r=.035) relationship between the two variables. The inference drawn from the statistic test result is that there exists a positive weak relationship between the professional responsibilities of the teachers and students' academic performance. The study, therefore, rejects the null hypothesis which states that there is no statistically significant relationship between professional responsibilities of teachers' and students' academic performance.

#### **Hypothesis 3:**

There is no statistically significant difference between male and female teachers' pedagogical practices.

Table 3: Differences in the Professional Practices of Male and Female Teachers

Donation		Male Teac	chers	Female Tea	Female Teachers			
Practice	n	Mean	SD	Mean	SD	df	t-value	p-value
Planning & preparation	126	47.54	6.492	46.91	7.704	124	.482	.631
Responsibility	126	49.34	7.554	48.19	8.397	124	.801	.425
Pedagogical Practice	126	203.36	27.89	197.48	31.50	124	1.095	.276

Source: Field survey (2020)

An independent-sample t-test was conducted to compare the difference between male and female teachers' competence in planning and preparation. The result revealed that there was no statistically significant difference in the score for male (M=47.54, SD=6.492) and females (M=46.91, SD=7.704; t (124) =.482, p=.631 2-tailed). Furtherance to Table 2, there was no statistically significant difference in teachers' professional responsibilities for males (M=49.34, SD=7.554) and females (M=48.19, SD=8.397; t (124) =.801, p=.425 2-tailed). An independent-sample t-test was conducted to compare the combined scores (planning and preparation and professional responsibility) for the difference in the pedagogical practices of the teachers and it was found that there was no statistically significant difference in the mean score for males (M=203.36, SD=27.89) and females (M=197.48, SD=31.50; t (124) =1.095, p=.276 2-tailed).

The result presented in Table 3 shows that there was no statistically significant difference between male and female teachers' pedagogical practices. Although some amount of difference between male and female teachers exist, the difference was not significant (p=.276). This according to Pallant (2010), suggests that the difference between male and female teachers' professional practices may be by chance or other factors apart from the two variables opined by Danielson (2013). The study, therefore, rejects the null hypothesis which states that "there is no statistically significant difference between male and female teachers' pedagogical practices".

#### **Hypothesis 4:**

There is no Statistically Significant Difference among Teachers on their Pedagogical Practices Based on Professional Qualification.

Table 4: Summary of F-test, Means, SD of Teachers' Professional Qualification and Practice

Qualification	n	Mean	SD	df	F	p	r
Certificate "A"	8	210.50	32.90	3	2.96	.035	0.07
Diploma	37	202.08	24.66				
1 <sup>st</sup> Degree	72	201.27	28.09				
2 <sup>nd</sup> Degree	9	173.22	48.55				

**Source:** Field survey (2020) \*p< 0.05 (2-tailed significant result)

One-Way ANOVA was used to assess the difference among the professional qualification (Cert A, Diploma,  $1^{st}$  degree and  $2^{nd}$  degree) of the teachers and their pedagogical practices. Preliminary statistics were conducted to ensure that no assumption for Oneway analysis of variance was violated and it was found that there was a statistically significant relationship at p<.05 level for the four groups F (3, 122) =2.96, p=.035. The effect size using eta squared was 0.07 and the Post Hoc (see figure 1) was performed to identify the difference among the qualification of teachers. The Post Hoc analysis, using Tukey showed a statistically significant difference (p=.048) in Cert "A" (M=210.50, SD=32.90) and Masters' (M=173, SD=48.55). The result suggests that there was a

"moderate" effect of professional qualification on the pedagogical practice of teachers. This means that though the result is significant, the magnitude of the difference between the four groups is "moderate" (p=.048).

Post Hoc Tests Multiple Comparisons

Dependent Variable: Pedagogical Practice

Tukey HSD

(I) Professional		Mean Difference			95% Confidence Interval		
Qualification	(J) Professional Qualification	(I-J)	Std. Error	Sig.	Lower Bound	Upper Bound	
Cert. A.	Diploma in Basic Education	8.41892	11.40597	.882	-21.2913	38.1291	
	B.Ed.	9.22222	10.90199	.832	-19.1752	37.6197	
	M.Ed. /M.A.	37.27778 <sup>*</sup>	14.21445	.048	.2520	74.3035	
Diploma in Basic	Cert. A	-8.41892	11.40597	.882	-38.1291	21.2913	
Education	B.Ed.	.80330	5.91722	.999	-14.6099	16.2165	
	M.Ed. /M.A.	28.85886*	10.87248	.044	.5383	57.1794	
B.Ed.	Cert. A	-9.22222	10.90199	.832	-37.6197	19.1752	
	Diploma in Basic Education	80330	5.91722	.999	-16.2165	14.6099	
	M.Ed./M.A.	28.05556*	10.34253	.038	1.1154	54.9957	
M.Ed./MA	Cert. A.	-37.27778*	14.21445	.048	-74.303	2520	
	Diploma in basic education	-28.85886 <sup>*</sup>	10.87248	.044	-57.1794	5383	
	B.Ed.	-28.05556*	10.34253	.038	-54.9957	-1.1154	

<sup>\*.</sup> The mean difference is significant at the 0.05 level.

#### Discussion

Based on hypothesis 1, it is evident that the teachers exhibited less competence in planning and preparation that suggests that their instructional process may not be well executed hence, the decline in students' academic performance as a result, the null hypothesis is rejected. The result agrees with the study of Danielson (2013) who believes that professional competence of a teacher during planning and preparation results in ineffective instructional practice translated into effective and higher academic outcome if implemented well. Danielson further points out that when teachers are effective in their professional planning and preparation before the instructional process, they can implement effective structures to increase their competence including outcomes permitting assessment of student attainment and outcomes differentiated for varied ability and the betterment of students' academic outcome. Since the relationship in planning and preparation competence of the teachers is weak (r=.054), there is the likelihood that they don't plan their lessons well and therefore do not demonstrate knowledge of content and pedagogy. They also do not have adequate knowledge of their students and instructional resources, hence a decrease in students' achievement (Darling-Hammond et al., 2005; NTS, 2017). Danielson (2013) proposes that the main domains of teaching are planning and Preparation, professional responsibility, classroom management and instruction but the efficiency of the teachers in planning and preparation as well as professional responsibilities in this study were identified as the "missing link" between teacher professional practices and students' academic performance among teachers.

Hypothesis 2 suggests that there is a positive relationship between teachers' professional responsibility and academic achievement of students but the magnitude of the relationship is weak. The positive relationship between the professional responsibility of the teachers and students' academic achievement implies that competencies expected to be demonstrated before, during and after instruction to enhance students' academic achievement are ineffective. This presupposes that there is a relative correlation between the competence of the teachers in terms of professional responsibility and academic achievement. However, the result wasn't significant suggesting that when teachers demonstrate an in-depth commitment to professional responsibilities, it does not necessarily mean that it will positively translate in students' academic achievement. This difference could be as a result of factors such as teaching experience, professional qualification, personal philosophy or teacher disposition hence, the view of Baidoo-Anu (2018) that punctuality of a teacher in the classroom positively influences student performance is very significant. Although there is a relationship between teachers' punctuality and students' academic performance, other factors such as poor performance of students in previous levels may affect the present performance. This suggests that previous knowledge competence of students influences their academic achievement in subsequent assessments.

The commitment of teachers is significant to higher academic achievement as indicated by Altum (2017) that, teachers experience and professionalism about instruction permeates academic performance. Responsibly, teachers' conduct, style and attitudes have a

great impact on the academic performance of students. This is in congruence with current literature that there is a positive relationship between teachers and students' academic performance greatly.

The result from the test of hypothesis 3 shows that there was no statistically significant difference between male and female teachers' pedagogical practices. It is more likely that the similarity of their competence in terms of pedagogical practices may take its root from their initial professional training in the teacher training institutions. Also, it appears that at the time of this study, the teachers might not have been involved in any continuous professional development on current teaching practices and methodologies after graduation that would expose them to teaching and learning method to equip them with essential skills, knowledge, attitude, and values as professional teachers. For that reason, they did not possess sufficient pedagogical practices to influence students' academic achievement positively. Igberadja (2016) in his study also suggests that teachers' gender does not have a statistically significant influence on professional practice hence, academic achievement is largely influenced by the professionalism of the teacher as a strong variable however well-structured classrooms are more likely to positively influence teaching and learning than unstructured classrooms. This presupposes that the overcrowding nature of students in a typical Ghanaian schools system may affect teacher output.

The result from testing of hypothesis 4 suggests that there was a "moderate" effect of professional qualification on the pedagogical practice of teachers. This means that although the result is significant, the magnitude of the difference between the four groups is "moderate". Practically, several factors contribute to the teacher exhibiting professional responsibility to influence students' performance. It is evident that there is a relationship between teachers with Teachers Certificate "A", Diploma and Bachelor certificates and their pedagogical practices, but teachers with Master's degrees appeared to have a more significant influence on their pedagogical practices that holders of Certificate A, Diploma or Bachelor degrees. This suggests that teachers with higher professional degrees might have attained new teaching methods, classroom managerial skills and other factors making them more effective in their teaching. The result can also be attributed to the notion that, teachers with higher degree exhibit higher professionalism leading to significant positive professional output.

Liakopoulou (2015) is of the view that professional responsibilities and instructional performance of teachers result from higher degrees attained. The study of Oyebola (2016) also maintains that professional competence in teaching and learning results from higher education and certification of teachers already in the classroom and that newly trained teacher exhibit less professionalism compared to those already on the field as a result of their inexperience on the job. Therefore, professional and certificated teachers with higher qualification are more likely to demonstrate more effective pedagogical practices than teachers with lower certification.

#### **Key Findings**

- There is a statistically significant positive weak relationship (r = .054, n=126, p=.551) between the teachers' competence in planning and preparation and students' academic achievement.
- There is a positive weak relationship (r=.035, n=126, p=.699) between the teachers' pedagogical responsibilities and students' academic achievement.
- Statistically, male (M=203.36; SD =27.89) and female (M = 197.48; SD = 31.50), t (124) =1.095, p=.276) teachers significantly differ in the exhibition of their pedagogical practices.
- Significantly, the pedagogical practices of the teachers statistically differ based on their teaching/professional qualification, F(3, 123) = 2.96, p=.035.

#### Conclusions

- It is concluded that teachers who do not adequately plan and prepare before teaching are not able to exhibit appropriate
  knowledge of the curriculum and learners, resources and assessment proceedings thereby negatively affecting the academic
  achievement of students.
- When teachers increase their awareness about their professional responsibilities such as reflective teaching practices, keep
  and maintain accurate records, ensure effective parent-teacher communication, participate in professional community
  activities and grow and develop professionally in the school, learners sense of participation and learning will be promoted
  effectively.
- Gender is not a factor that contributes to pedagogical practices among teachers. Thus, both male and female teachers demonstrate similar pedagogical practices.
- Teaching professional qualification of teachers positively contribute to their pedagogical practices (planning and preparation, and professional responsibilities) hence, teachers with a higher degree have demonstrated higher teaching effectiveness than those with lower or no professional standards. This accounted for the differences in the outcome of the teachers as well as in students' academic achievement.

#### Recommendations

Based on the findings of the study the following recommendations are made:

- Ghana Education Service (GES), Ministry of Education (MoE), Parent-Teacher- Associations (PTA) and School Management Committees (SMC) should resource teachers so that they will adequately plan and prepare before instruction.
- Teachers should also ensure that they plan and prepare effectively before instruction and also teach what they planned for.
- GES, PTA and SMC and the National Council for Curriculum and Assessment should adopt appropriate measures such as teacher involvement in curriculum change and/or innovations so that the teachers implement the curriculum effectively.
- MoE and school administrators should provide equal opportunities for both male and female teachers to enhance their pedagogical practices.
- GES should sponsor more teachers, irrespective of their qualification or gender, to upgrade themselves to enhance their pedagogical practices for effective instruction and academic excellence.

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