Examining the Relationship between Learning Context, School Choice, and Academic Performance: A Study of Government-Assisted Adventist Secondary Schools in the Ashanti, Ghana

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Abstract: This study aimed at examining the association between the learning context, school choice, and academic performance. An Embedded Mixed Methods design was applied within the framework of the pragmatic research paradigm. The target population consisted of 5 Government-Assisted Adventist secondary schools in the Ashanti Region, Ghana, with 27,388 students and stakeholders. The study involved a sample of 396; 200 students and 196 stakeholders (management and teachers, old students, pastors, church members, and parents). Sampling strategies included simple random, stratified random, purposive, and snowball due to the diversity of the respondents. The data were analysed using ANOVA, Correlation, Crosstabulation, and documentary techniques. The findings indicated a significant difference between Basic Education Certificate Examinations (BECE) and West Africa Senior School Certificate Examinations (WASSCE) performance with p-values of .016 and .000, respectively, P<.05 at a 95% Confidence Interval. There was a significant correlation between the learning context standard and parental school choice. The results showed that schools with low-standard learning contexts mainly attract average and low-performing applicants. The study suggests enhancing the learning context standards of less-endowed secondary schools to boost their competitiveness. Policymakers are urged to incorporate diagnostic, formative, and summative assessment approaches in evaluating secondary schools, taking into account their learning context to ensure fairness, reliability, and equity.

Keywords: Learning Context, School choice, Academic performance, Government-Assisted Adventist Secondary Schools, Ghana

1. Introduction

The quest for quality education with a conducive learning context and high academic performance has intensified competition among secondary schools at both international and national levels. Globally, schools at all levels are in keen competition to boost enrollment, gain a brand advantage, and generate income for financial sustainability (Altbach et al., 2017; Ayam, 2017).

In this contest, privileged schools equipped with the necessary educational resources and brand recognition adopt cream skimming to enroll the best brains to the disadvantage of the less-endowed schools (Choi & Hwang, 2017). The plight of the underprivileged SHSs is worsened by the National Assessment of West Africa Senior School Certificate Examinations (WASSCE) candidates, which depends mainly on high-stakes examination results. The assessment does not consider the unique learning context of the less-endowed

secondary school. The context provides no level ground for the school choice competition.

In 2014 the Ministry of Education, Ghana, disclosed that 46% of West Africa Senior Secondary Certificate Examinations (WASSCE) candidates, who gain entrance to the university, are from 100 well-endowed Secondary Schools. These candidates constitute only 20% of pre-tertiary institutions (Ministry of Education. Ghana, 2014). The elite schools are well-resourced with infrastructure, facilities, attractive compounds, and experienced teachers.

With a track record of high academic performance, such schools usually attract the cream of students to sustain their brand. Also, the well-endowed Senior High Schools enjoy financial support from their Alumni with high-rank portfolios in government and corporate organisations (Emmanuel, 2020). As a competitive advantage, the well-endowed schools expend less effort to achieve higher academic performance. Comparatively, Secondary Schools that are less endowed usually attract average-performing students, which is a crucial contributing factor to low academic performance (Opoku-Asare & Siaw, 2015).

In light of the unfair assessment coupled with inequity in educational resource distribution, this study is crafted to establish the association between the learning context, school choice, and academic performance using diagnostic, formative, and summative assessment approaches. The objective is to determine the strengths and weaknesses of underprivileged SHSs to guide them in recommending strategies for improving their learning contexts.

1.1 Theoretical Review

The current study involves a hybrid system of education, which is neither purely of the Seventh-day Adventist nor Ghana education system. Accordingly, a fair and reliable evaluation of the choice and academic performance of the system must be in the context of the unique environmental features that characterise its educational delivery. Concerning the learning environment, the researchers introduced Functional Context Learning Theory (FCL) as a guiding framework for the study, originally postulated by Tom Sticht in 1975.

Functional Context Learning theory accentuates the essence of making learning meaningful and relevant to the learner's experience and frame of reference (Podolskij, 2012a). Applying context learning principles to 100,000 military men with reading deficiency, Sticht established a link between listening, reading, and writing. In a related study, he found the relationship between listening and reading arithmetic requirements in military jobs (Podolskij, 2012b).

According to Mihnev (2017), FCL promotes a new assessment method that does not depend solely on the raw score but rather on the content knowledge gained. FCL premises that learning is influenced by the learner's experience and environmental conditions. Consistent with FCL, the current study is premised on a new assessment independent of raw scores but reflects student performance throughout their study period of secondary education. The study also relates student learning to the influence of environmental conditions.

FCL shares some common attributes with the current study; hence its application is of relevance. The subject matter "Context learning" reflects the prevailing factors in the learning context of the hybrid system, which is a blend of both the Adventist and Ghana Education systems. Therefore, establishing an association between the learning context, school choice, and academic performance in the hybrid system requires a conceptualization approach. Such an approach takes the learning conditions of the schools, the learning characteristics of the students, and an appropriate assessment method that unearths the actual performance of the schools, students, and teachers into account. The essence of the combination of similar and distinctive features for assessment is in harmony with UNESCO's accession that quality indicators are situated on the "specific learning goals of the education system" (Marron & Naughton, 2019, p. 4). By extension, an enquiry about student choice and academic performance in a hybrid educational system requires considering the unique learning context of the target population.

Like the social development aspect of FCL, the service-oriented concept of Adventist education involves applying learning to the world of work. Contrary to the emphasis on rote learning in the Ghana Education system, FCL stresses the importance of skills development and problem-solving. While the FCL shares some standard features with the two education systems, there are areas of departure. As a limitation, the theory focuses mainly on adult education and literacy with less application in the classroom setting.

1.2 Research Questions

Does the presence of academic resources in Government-Assisted Adventist Secondary schools in Ghana have a statistically significant impact on student performance, as measured by their BECE (SHS) entry performance, internal student performance, and WASSCE performance?

2. Literature Review

This section of the study discusses the indicators of the independent variables and their association with school choice and academic performance. The variables constitute the characteristic features of Seventh-day

Adventist Education, academic resources, physical infrastructural facilities, and spiritual and social nurturing.

According to White (1903), the Adventist philosophy of education encapsulates wholistic development of the mental, physical, and spiritual development of the learner for service to God and humanity. In an investigation engaging a meta-analysis on the relationship between student nurturing and student academic performance and behavioural outcomes, Jeynes (2019) established a link between value nurturing and higher educational outcomes, irrespective of the mode of academic measurement.

In a quantitative and descriptive survey design study on predictors of school choice, Saani and Amonoo (2021) observed that school choice is influenced by family religious persuasion, economic background, and the school's visibility. The literature affirms a link between high-standard academic resources and high academic performance, which jointly influences parental school choice (Ayam, 2017; Choi & Hwang, 2017).

In a study involving an interview of 80 students from different Senior High Schools in Winneba, Ghana, Mensah and Koomson (2020) discovered that a positive relationship between teachers and students promotes high academic performance. Yarkwah and Agyei (2020) also observed that physical activities, such as
football, basketball, athletics, hockey, and netball, provide students with the
opportunity for training, social skills development, and healthy living. He intimated that student engagement in school social activities is associated with a broad spectrum of academic outcomes.

The literature observes that academic resources and infrastructural facilities are indicators of positive learning outcomes (Namale et al., 2021). The researchers found that inadequate science laboratory equipment and classroom furniture contribute to low performance in sciences. In a case study at Oda Senior High School in Ghana, Otchere et al. (2019) confirmed a significant relationship between adequate school facilities and academic performance.

3. Methodology

This part of the investigation discusses the study design, population, sampling techniques, instruments used, and ethical considerations.

3.1 Research Design

An Embedded Mixed Methods design was employed for the study within a pragmatic research paradigm framework. The design comprised inferential descriptive and documentary methods, the former being the primary study while the latter constituted the subordinate (Cohen et al. 2018; Mohajan, 2020).

3.2 Population and Sampling

The target population comprised 27,388 students and stakeholders from 5 Government-Assisted Senior High schools in the Ashanti Region of Ghana. Using Slovin's method of sample size determination, 394.24 was obtained, rounded up to 400 (Stephanie, 2012). Hence 200 student and stakeholder participants were sampled, out of which 4 failed to provide feedback, leaving 196 respondents. The students were sampled by a simple stratified technique to ensure gender and creed (Adventists and Non-Adventists) balance (Atlan, 2017)

The stakeholder respondents from each school were determined by proportionate sampling based on the school's population. Of the 196 stakeholders, 38 Board members, Church/School Administrators, and teachers were purposively selected since they are opinion leaders and are well-informed about the Adventist Education system. A simple random sampling technique was applied to obtain data from 34 Adventist parents, 34 non-Adventist parents, and 35 Adventist parents who do not patronise the Church schools. Snowball selected twenty Old Students through the Headmasters, Heads of tertiary Adventist Institutions, and Church Elders. Snowballing was necessary to facilitate data gathering from these respondents as the researcher could not have direct access to them. The essence of the multiple respondents of different professions, creeds, gender, and age groups was to achieve a balanced opinion (Schoonenboom & Johnson, 2017).

3.3 Data Analysis Methods

Two closely related self-constructed 5-point Likert Scale instruments were used to collect data from students and stakeholders. The student data were analysed by correlation and ANOVA statistics by IBM SPSS Statistical Data Processor version 23. The secondary data, consisting of student entry and internal and external examinations for three consecutive years, were processed by meta-proportional techniques. Crosstabulation analysis was applied in processing the stakeholders' data. Atlan (2016) observes that Crosstabulation analysis brings out the richness of the relationship between variables. According to Cohen et al. (2018) the use of different designs, varying methods, data sampling, and techniques in research help to achieve triangulation.

3.4 Reliability and Validity

Research reliability was achieved through the validation of instruments by supervisors and educational experts. A pilot study was conducted in two Government-Assisted Adventist SHSs which share similar attributes with the

target population (Haradhan, 2017). Cronbach Alpha of .863 and .852 were obtained for student and stakeholder questionnaires analyses, which confirmed the reliability of the instruments.

The study's validity was achieved by seeking experts' advice clear explanation of the independent, dependent, and intervening variables—extensive coverage of the study elements in the literature review. The confidentiality and anonymity of respondents were guaranteed, while objectivity and accuracy guided every step of the research (Cohen et al. 2018; Zohrabi, 2013). The construct and research theory of the research were comprehensively explained and covered in the research.

3.5 Ethical Consideration

The researchers obtained Research license and clearance was secured from the University of Eastern Africa, Baraton, Research and Ethics Committee, the Ghana Education Service, and the Adventist Educational Unit. Approval for data collection was also obtained from the

SDA Church leadership, Pastors, Headmasters, and the respondents. Churches' Orientations were conducted to explain the research's objective and benefits before the data collection. The institutions and respondents were provided with a guarantee of research objectivity and a commitment to an honest report. No respondent was coerced to participate in the research. Besides, they had the option to opt out.

4. Results and Discussion

This part of the study outlines and discusses the findings in relation to other study results in the literature. The research question below guided in the inferential statistics analysis:

Research Question 1: Is there any statistically significant difference between student BECE (SHS) entry performance, internal student performance, and student WASSCE performance based on the influence of the academic resources in Government-Assisted Adventist Secondary schools in Ghana?

Table 1: ANOVA *BECE, *Continuous Assessment and WASSCE based on the Influence of Academic Resources

Exam	Group	Sum of Squares	Df	Mean Square	F-Ratio	Sig.
BECE results from 2016 to 2018	Between Groups	12.684	4	3.171	3.142	.016[a1]
	Within Groups	196.816	195	1.009		
	Total	209.500	199			
Average Continuous Assessment from 2018-2020	Between Groups	3.721	4	.930	.915	456[a2]
	Within Groups	198.279	195	1.017		
	Total	202.000	199			
Average WASSCE Performance from 2018 to 2020	Between Groups	38.890	4	9.723	5.563	.000[a3]
	Within Groups	340.790	195	1.748		
	Total	379.680	199			

Note: df = Degree of Freedom; Sig. = Significance.

a[1] = There is a significant statistical difference in BECE results from 2016 to 2018
a[2] =   There is no significant statistical difference in Average Continuous Assessment between 2018 and 2020
a[3] = a significant statistical difference in Average WASSCE performance between 2018 and 2020.

The Null Hypothesis states: There is no statistically significant difference between student BECE (SHS entry) performance, Internal student performance, and student WASSCE performance due to the influence of academic resources in Government-Assisted Adventist SHSs in the Ashanti Region, Ghana.

The p-values from the ANOVA output in Table 1 are as follows: BECE/*Academic Resources, p = 0.016 < .05; Continuous Assessment/*Academic Resources, p = .456

> .05; WASSCE/*Academic Resources, p = .000 < .05 at a 95% Confidence Interval.

The Null Hypothesis states that there no significant difference between BECE and WASSCE results. Since the p-values of BECE and WASSCE are less than .05 at 95% Intervals, we reject the Null Hypothesis. There is a significant difference between the three consecutive BECE and WASSCE examination results under the influence of academic resources. In other words, the variation in student academic performance significantly

depends on the availability or lack of academic resources.

By contrast, student performance in continuous assessment in Government-Assisted Adventist SHSs in Ghana from 2018-2020 showed no significant variation ($p > 0.5$) based on the impact of academic resources. Therefore, the Null Hypothesis is upheld. The results imply that student performance in Continuous Assessment does not change much, regardless of availability or lack of academic resources. The insignificant difference in student academic performance in Continuous Assessment reflects students' lack of academic competitiveness. From the documentary analysis (see Figure 1), it can be observed that the academic performance potential of the schools lies between B3 and D7 (i.e., C4 - C6, which is average in the WASSCE ranking. Therefore, it can be presented that the standard of the internal exams is not challenging. Possibly, the exam questions were not moderated for standardisation. Hence, student performance was averagely high with low variation.

Furthermore, internal examinations might neither be strict nor devoid of malpractices. Possibly too, the teachers are lenient in their assessment. Nevertheless, these factors cannot be discussed in isolation from the weak academic background of students in average-performing schools, which requires extra work within the limited SHS programme duration to prepare such candidates adequately for WASSCE exams. Therefore, the clarion call to increase the Senior High School programme duration from three to four years demands a redress (Kwofie et al., 2020; Mensah & Yarkwa (2022). Added to these challenges are the inadequate educational resources of the target population discussed in this investigation.

The factors influencing student academic performance are multifaceted, underscoring why a single test score does not provide fair, valid, and reliable grounds for assessing student performance. In the same vein, the use of WASSCE results alone to compare the results of SHSs, without considering their learning contexts, lacks equity and justification. The reason is that students in prestigious schools have an excellent academic foundation with access to experienced teachers and adequate teaching and learning facilities. Compared to their compatriots in deprived SHSs, privileged students have the advantage of performing better in high-stakes examinations (Emmanuel, 2020; Babah et al., 2020).
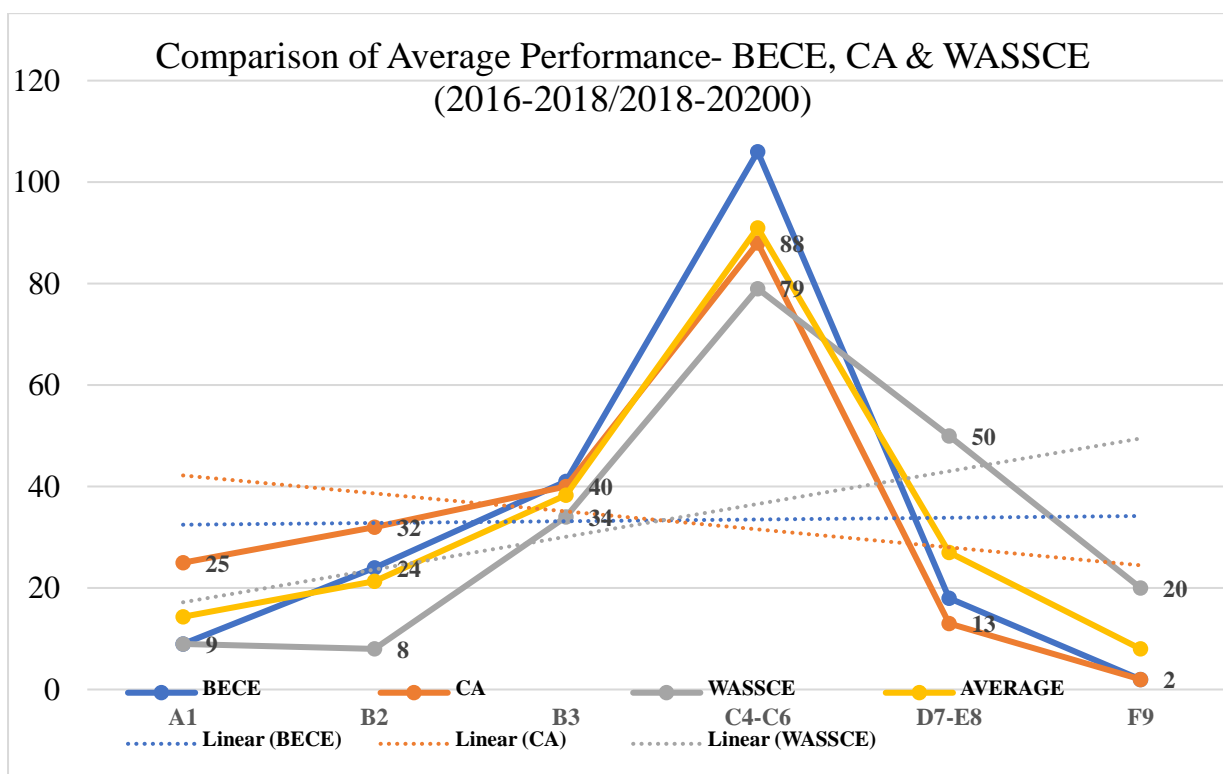

Figure 1: Comparison of Average BECE, CA & WASSCE Performance of Adventist SHSs in Ghana

Note. Total Respondents = 200. BECE = Basic Education Certificate Examination; CA = Continuous Assessment. WASSCE = West Africa Senior School Certificate Examinations

The graphical illustrations in Figure 1 indicate that performance is relatively low in BECE. The trendline depicts a gentle linear decline from higher grades to lower grades. Comparatively, the trendline of Continuous Assessment performance is a relatively steep

decline from higher to lower grades, an improved performance relative to the BECE results.
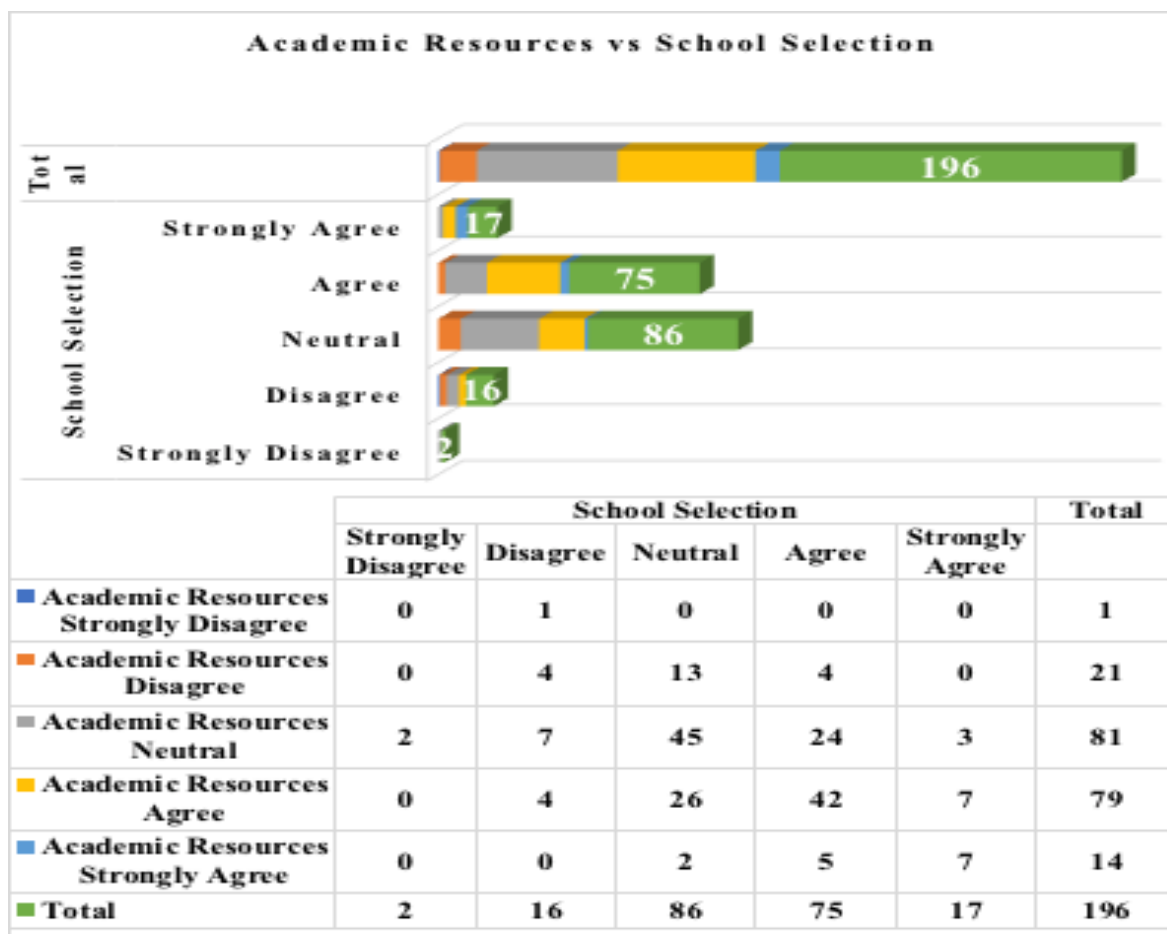
However, while the performance appreciates in the Continuous Assessment, it declines considerably in the WASSCE scores. The WASSCE trendline shows a relatively sharp linear ascent from lower scores in higher grades to higher scores in lower grades, which depicts the poorest performance among the three. More significantly, as the trendlines indicate, the entry scores in BECE are better than their final output in WASSCE.

The results raise questions about the adequacy of teaching and learning resources, teacher quality, student learning characteristics, the Senior High School program duration, and the standard of internal examinations. The documentary analysis's findings corroborate the quantitative analysis outcomes, mainly as discussed earlier under Research Question 1. Furthermore, the patterns of the three graphs virtually portray common linear trends. There is a strong indication of a significant correlation between BECE, Continuous Assessment, and WASSCE performance.

The ANOVA analysis results show a significant variation between BECE and WASSCE performance for three years and no significant variation in Continuous Assessment. Nevertheless. the documentary analysis presents a closer link between the BECE and Continuous Assessment regarding their performance trends. Despite the differences in the results, there is evidence of a correlation between the results of the three modes of assessment.

By implication, there is a significant association between learning context, school choice, and academic performance in Government-Assisted Adventist SHS. In other words, the standard of academic resources, physical infrastructural facilities and spiritual and social nurturing are linked with a school's choice and academic performance. The study results show the need for improving the learning context of distressed SHSs to promote high academic performance.

More significantly, the study outcomes reinforce the essence of adopting a balanced performance assessment model by considering the learning context rather than using mainly a single test result.

Academic Resources vs School Selection

	School Selection					Total
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
■ Academic Resources Strongly Disagree	0	1	0	0	0	1
■ Academic Resources Disagree	0	4	13	4	0	21
■ Academic Resources Neutral	2	7	45	24	3	81
■ Academic Resources Agree	0	4	26	42	7	79
■ Academic Resources Strongly Agree	0	0	2	5	7	14
■ Total	2	16	86	75	17	196

Figure 2: Crosstabulation of Academic Resources and School Choice

The output of Figure 2 indicates that 17(8.67%) stakeholders strongly agree that Academic Resources influenced their choice of Government-Assisted Adventist SHSs. Seventy-five (38.27%) agree;

86(43.88%) neutral; 16(8.16%) disagree; 2(1.02%) strongly disagree. From the distribution, the high ranking, Strongly Agree and Agree, constitute 46.98%, while the average and below make up 53.06%. The results show that academic resources in Government-Assisted Adventist SHSs do not significantly influence the parental choice of the schools.

The stakeholders' ratings indicate a need to enhance the standard of academic resources in order to promote effective teaching and learning, as they are on the lower side. The stakeholders' perception of academic resources synchronises with the ANOVA outputs, revealing low performance in BECE and WASSCE.

There is a link between high-standard academic resources and high academic performance, which correspondingly influences parental school choice and vice versa (see Ayam, 2017; Choi & Hwang, 2017; Saani & Amonoo, 2021 for more). Therefore, inadequate academic resources contribute to average or low performance in Government-Assisted Adventist SHSs in the Ashanti Region of Ghana.

Findings of Crosstabulation on Physical Infrastructural Facilities and School Choice

The output results showed that 3(10%) stakeholders strongly agree that infrastructural standards in Government-Assisted Adventist SHSs influence their choice of the schools; 70(36%) agree; 70(36%) are neutral; 43(22%); and 10(1%). While the high ratings sum up to 23%, the low (average and below) total 77%. The statistics imply that the standard of infrastructural facilities in Government-Assisted Adventist SHSs is average or low.

Hence only 23% of the respondents claimed that the quality of the infrastructure influenced their choice of the schools. Compared to the quantitative findings, 73(36.5) applicants scored between A1 and B3. This result parallels the stakeholders' perception of low infrastructural standards. By extension, the majority of applicants of Government-Assisted Adventist SHSs are average or low-performing students. The research findings of Baafi (2020) and Otchere et al. (2019) established a correlation between the condition of physical infrastructure and academic performance. As a ripple effect, the calibre of applicants adversely influences the academic performance of the school (Dabone et al., 2023; Barrett et al., 2019; Akomolafe & Adesua, 2016).

Findings of Crosstabulation on Social and Spiritual Nurturing and School Choice

From the analysis outputs, 40(20.40%) stakeholder respondents strongly agree that Spiritual and Social Nurturing in Government-Assisted Adventist SHSs

influenced their choice of the schools. One hundred and seventeen respondents (59.68%) agree; 36(18.37%) are neutral; 3(1.5%) disagree; 0(0%) strongly disagree. From the distribution, the good and high ranking constitutes 157(80.08), while the average and low ranking sum up to 39(19.9%). The analysis confirms the strong influence of Spiritual and Social Nurturing on stakeholders' choice of Government-Assisted Adventist SHSs in Ghana.

By inference, Spiritual and Social Nurturing in Government-Assisted Adventist SHSs promotes the brand of the schools and their choice by applicants. The findings support the observation of Saani and Amonoo (2021), which affirms a link between value nurturing, academic performance, and school choice. Spiritual and social nurturing is the outstanding indicator that supports the wholistic concept of Adventist Education. For balance, more attention should be given to improving the standards of academic resources and infrastructural facilities to make the schools more competitive.

5. Conclusion and Recommendations

5.1 Conclusion

From the findings, the study makes the following conclusions:

1. The study outcome showed a significant difference between BECE and WASSCE examination results for three consecutive years in all three modes of academic performance assessment but no significant difference with Continuous Assessment performance within the same period.
2. The findings confirmed a significant correlation between the learning context, school choice, and academic performance irrespective of the mode of academic performance assessment.
3. The standard of academic performance depends on the quality of the learning context of the school and the calibre of applicants that select the school.
4. The findings confirm that a combined diagnostic, formative, and summative assessment of academic performance based on the learning context of schools promotes fair, reliable, and valid results.
5. Furthermore, the approach brings to the fore the strengths and weaknesses of the learning context, providing insight into education improvement. More importantly, the outcome provides evidence for equity in educational resource distribution.

5.2 Recommendations

The study makes the following recommendations:

1. Schools should analyse student entry, internal and external performance to guide them in improving

teaching methods, motivating effective learning, and promoting high academic performance.

2. School administrators should moderate internal examinations and ensure effective examination conduct to make Continuous Assessment results competitive.

3. Policymakers should review the national WASSCE candidates' performance assessment by integrating diagnostic, formative, and summative modes while considering the learning contexts of the schools.

4. Government and education providers should provide adequate funds to improve the learning context of less-resourced SHSs to make them more competitive to curb over-sorting in school choice.

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