Predictors of Social Studies Learning Style Preferences among Public Junior High School Pupils in East Mamprusi Municipality, Ghana

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ABSTRACT

The study sought to establish the extent to which Home-related factors, School-related factors and Personal factors predict learning style preferences among public Junior High School pupils in studying Social Studies in East Mamprusi Municipality in the North East Region of Ghana. The Grasha and Riechmann's (1982) learning styles theory guided the study. Cross-sectional descriptive survey design within the positivists' quantitative methodology was used for the study. Structured questionnaire was used to collect data from 230 participants selected through proportionate stratified random sampling technique for the study. With the aid of SPSS, Multiple Linear Regression Analytical test was used to analyse the data. The findings revealed that, school-related factors (β=0.320, t=4.944, p<0.05), home-related factors (β=0.254, t=4.020, p<0.05) and personal factors (β=0.259, t=3.537, p<0.05) individually and statistically significantly influenced learning style preferences among the pupils in studying Social Studies. Based on the findings, it was recommended that the East Mamprusi Municipal Education Directorate adopts a comprehensive strategy to focus on all the factors that influence the choice of learning styles to enhance the effective study of Social Studies in the schools.

Keywords: Learning styles, home-related factors, school-related factors, personal factors, Junior High School, Social Studies.

INTRODUCTION

The term "learning styles" began appearing in educational literature in the 1970s and has been used interchangeably with similar terms, such as cognitive style and thinking style (Sadan, Berks & Sarah, 2011). According to Curry (1983) there are 21 models for learning styles. From a general standpoint, the Oxford American College Dictionary defines style as, "A way of behaving or approaching a situation that is characteristic of, or favored by a particular person." From a psychological standpoint, style is much more complex, especially in the context of formal education. As a result, a true definition has never been agreed upon.

Learning styles demonstrate the difference in the individual's preferences in the knowledge acquisition process (Kafadar, 2021). According to Kolb (1984) learning style is characterized by combining individual orientations that give differential emphasis to the four fundamental learning styles (Concrete experience, Reflective observation, Abstract conceptualization and Active experimentation) postulated in the theory of experiential learning, as a result of inherited equipment, past experience, and the requirements of the current environment.

Learning style may be defined as an individual's preferred way of learning (Grasha, 1996), or it may include "a range of constructs describing variations in the manner in which individuals learn" (Price, 2004, p. 681).

An understanding of students' learning styles can improve the selection of teaching strategies best suited to their learning (Zapalska & Dabb, 2002). Knowing the learning styles of their students, teachers can develop a variety of instructional methodologies to benefit all students (Williamson & Watson, 2007).

One of the popular learning style models is the model developed by Grasha-Riechmann in (1982). The model identifies six types of learning style preferences: avoidant, participative, competitive, collaborative, dependent and independent. Avoidant learners prefer to avoid attending class and show no interest in participation in class activities. Basically, they are passive learners. Participative learners prefer to involve more in class activities. They are active learners. Competitive learners prefer to compete within a whole class in order to achieve success. Collaborative learners prefer to learn in collaboration with the teacher and other students. Dependent learners prefer to learn by relying on others. They (Dependent learners) treat teachers and peers as a support base in the learning process. Independent learners prefer to work on their own. They follow self-paced instruction.

Statement of the Problem

Learning style preference is said to be influenced by a number of factors, some of which have more effect on certain learners or in certain stages than others. For example, Ramayah, et al. (2011) examined the effect of peer influence, technology, cultural background on learning style of business school students and found that peer influence affected all four types of learning styles, technology affected reading and writing, while cultural background of the learner affected visual, aural and kinesthetic learning styles of the participants. There have been several other studies confirming the effect of culture (Charlesworth, 2008; De Vita, 2010; Lee, 2011; Song & Oh, 2011). A study more specific about the cultural effect found that cultural differences were 'marginally significant' when it comes to variability in preference for active experimentation over reflective observation, something which was rather affected by age and area of specialization, while culture had a significant effect on the choice between abstract learning style and reflective learning style (Joy & Kolb, 2009).

Kolb (1984) considered other potential factors on the learning style preferences of students and proposed that personality, cognitive styles, temperaments, sensory systems, and age constitute factors that influence learning styles. What remains factual is that these factors may not be solely responsible for influencing the learning style preferences of students. A study by Zuberu et al. (2019) to investigate the different ways that students at Ghanaian universities learn and approach their coursework revealed that teaching strategies and classroom environments have a significant impact on how students learn. Owusu and Cobbold (2020) reported that there is considerable variation in the resource management learning strategies of Economics students and that this variation can be largely accounted for by differences in teaching method, motivation, student status, and school type.

In spite of the numerous research efforts made to investigate factors that influence the learning styles of students in schools and other subject areas, not much has been done to examine the factors that influence the learning style preferences of students in studying Social Studies, especially in the East Mamprusi Municipality, Ghana. This makes the present study relevant to help establish the extent to which home-related factors, school-related factors and personal factors influence the learning style preferences of public Junior High School pupils in studying Social Studies in the East Mamprusi Municipality, Ghana.

Objective of the Study

The study sought to:

1. Investigate factors that predict learning style preferences among pupils in studying Social Studies in public Junior High Schools in the East Mamprusi Municipality.

Research Question

1. What factors predict learning style preferences among pupils in studying Social Studies in public Junior High Schools in the East Mamprusi Municipality?

REVIEW OF RELATED LITERATURE

Learning styles are an integral and vital part of a student's learning process and have been constantly discussed in the field of education and pedagogy. Originally, it was developed from the field of psychology, psychological classification, and cognitive research (Hu, Peng, Chen & Yu, 2021). The term "learning style" is generally defined as the learner's innate and individualized preference for ways of participation in learning practice (Ehrman & Oxford, 1990). Theoretically, learning styles provide a window into pupils' learning processes (Moser & Zumbach, 2018), predict pupils' learning outcomes (Chen & Chen, 2018) and play a critical role in designing individualized instruction (Buckley & Doyle, 2017). Knowing a student's learning styles and personalizing instruction to these learning styles could enhance the student's satisfaction, improve academic performance and reduce the amount of time spent on learning tasks (Kuo, Chu, & Huang, 2015). Kolb, cited in Ramayah et al. (2011) noted that the success of students in the learning environment depends on a variety of factors, including intellectual abilities, skills and talents of students, and learning style preferences.

Several factors have been identified as predictors of the learning styles of students. A study by Wood (2010) revealed that being introverted, shy, extroverted, or talkative can have a detrimental effect on a student's ability to learn. Disabilities and language barriers are two other factors that can have an impact on a student's preferred method of instruction. Ramayah et al. (2011) carried out research on factors that influence the learning style of business students and found that peer influence affected how other students learn, and students' preference for a particular learning style is influenced by their cultural backgrounds. A person's ability to remember information depends on a variety of factors, including but not limited to his or her IQ, motivation, emotional state, the learner's physical location, the learner's perceived importance of the material being memorised, and the teaching and learning strategy being employed (Dunn & Dunn, 1992).

Factors in the surrounding environment, such as seating arrangement, temperature, and lighting, are all mentioned by Dunn and Griggs (2000) as having an impact on the learning process in the physiological learning style domain. Abante, et al. (2014) pointed out that physical and environmental factors have a much greater impact on the preferred learning style of students than did teacher and home environment, as well as students' individual factors. Students' preferred methods of instruction can vary depending on several factors, such as aspects of gender, age, education, brain function, cultural background, and imaginative ability, as reported by Honigsfeld (2001).

METHODOLOGY

Research Design

Cross-sectional descriptive survey design was employed in the study. According to Ihuoma (2020) the descriptive survey design aims at describing characteristics of variables in a situation. The choice of this research design afforded the researcher an opportunity to collect numeric data from respondents, so as to examine relationships between the outcome and criterion variables involved in the study, which sought to establish the extent to which home-related factors, school-related factors and personal factors predicted learning style preferences of public junior high school pupils in the East Mamprusi Municpality.

Population of the Study

A research population refers to all the elements that meet the criteria for inclusion in a study (Burns & Grove, 2011). In this study, the target population covered all Junior High School pupils in the East Mamprusi Municipality. The accessible population for the study, however, included all pupils in public Junior High Schools in East Mamprusi Municipality who had studied in their respective schools for at least one academic year. This was made up of 662 girls and 900 boys, totalling 1,562 public Junior High School (JHS) pupils (East Mamprusi Education Statistics Unit, 2022). The accessible population was derived from all the nine (9) educational circuits in East Mamprusi Municipality.

Sample and Sampling Techniques

A sample is a representative part of a population, which when studied makes it possible for a researcher to know about the population without necessarily studying it entirely (Taherdoost, 2016). In this study, 234 public Junior High School pupils were selected from the nine educational circuits in the East Mamprusi Municipality to establish the sample. The sample size was deemed representative of the target population based on the suggestion by Gay and Airasian (2003) that at least 10-20% sample of the target population is adequate for a descriptive study. Therefore, the sample size of 234 was 15% of the target population of 1,562 pupils.

Sampling is the process of selecting a given number of subjects from a defined population as representative of that population, such that any statements made about the sample should also be true of the population (Orodho, 2009). Stratified random sampling technique was used to select respondents for the study. In using this technique, the sampling frame was first determined. According to Kölln, et al. (2019) the sampling frame is an operationalised representation of the target population, which is the group of units from which the sample is recruited. The target population was categorised in terms of circuits and their respective gender composition. Then, the number of pupils from each circuit and gender was selected as presented in Table 1.

Table 1: Distribution of the Sample by Circuit and Gender

Circuit	Target population (%)	Circuit Sample Size	Males (%)	Male sample size	Females (%)	Female sample size
A	164 (10)	23	95(58)	13	69(42)	10
B	182 (12)	28	111(61)	17	71(39)	11
C	179 (12)	28	100(56)	16	79(44)	12
D	170 (11)	26	97(57)	15	73(43)	11
E	187 (12)	28	112(60)	17	75(40)	11
F	175 (11)	26	96(55)	14	79(45)	12
G	169 (11)	26	96(57)	15	73(43)	11
H	175 (11)	26	103(59)	15	72(41)	11
I	161 (10)	23	90(56)	13	71(44)	10
Total	**1562**	**234**	**900(58)**	**135**	**662(42)**	**99**

Source: Researcher's Computations, 2022

Instrumentation

Data collection instruments refer to the fact-finding strategies and tools for data collection (Munir, Annum, Reyes & Hassan, 2017). Denzin and Lincoln (2012) advance the argument that the questionnaire is arguably said to be the commonest research tool relatively well understood by respondents due to its merits on cost effectiveness and simplicity. The questionnaire was adapted from Grasha-Riechmann (1982) and consisted of four sections. Section One gathered demographic information of the respondents such as gender, age and level/form. Section Two gathered data on the learning style preferences of the respondents based on Grasha-Riechmann (1982) learning style model. Section 'C' of the questionnaire sought to collect data on factors that influence the pupils' learning style preferences under headings such as school-related factors (teaching strategies, content organization and differentiation, teaching/learning resources, and classroom and behaviour management), home-related factors (parental support and monitoring) and student-related/personal factors (study habits). The participants were required to rate statements on a 5-point Likert-type scale. A decision rule was applied to the likert scale response options, where:

☐ 1= Strongly Disagree (SD)

☐ 2 = Disagree (D)

☐ 3 = Undecided (U)

☐ 4 =Agree (A) and

☐ 5 = Strongly Agree (SA)

The decision rule was chosen to align with the study's objective of examining respondents' levels of agreement with the statements on factors that predict learning style preferences, allowing for a clear distinction between strong agreement, neutrality and strong disagreement. The participants were required to select only one view from the five options to represent opinions on the issues presented in each of the statements.

Pre-testing of Data Collection Instrument

The pre-testing of the questionnaire was done in the West Mamprusi Municipality. The choice of this Municipality was in view of the researcher's observation that the West Mamprusi Municipality exhibits characteristics closely related to those of the East Mamprusi Municipality. A sample of thirty (30) pupils was selected from junior high schools in the West Mamprusi Municipality for the pre-testing exercise. The adequacy of the pre-testing sample size was based on Cooper and Schilder's (2011) suggestion that at least 10% of the sample is adequate in a pre-test.

Validity of Instrument

Validity describes the accuracy with which an instrument measures the anticipated construct within a study (Noble & Smith, 2015). Content validity of the instrument was ascertained by colleagues and experts who are knowledgeable in relation to the issues in the study.

Reliability of Instrument

The reliability of the research instrument was estimated using Cronbach's alpha reliability test which yielded a Cronbach alpha coefficient greater than 0.7 for each of the study variables. This agreed with the recommendation of George and Mallery (2012) that a Cronbach's alpha reliability coefficient greater than or equal to 0.70 is acceptable. Based on this result, it was concluded that the research instrument was reliable.

Data Collection Procedure

Data collection is the process of gathering and measuring information on variables of interest in an established, systematic fashion that enables the researcher to answer stated research questions, test hypotheses, and evaluate outcomes (Kabir, 2016). A letter of introduction was obtained to enable the researcher seek permission from the East Mamprusi Municipal Education Directorate to gain access to the public Junior High Schools in the nine circuits. The researcher then held brief interaction with the pupils who were selected for the study and explained to them how they would be involved in the study. Further, the researchers sought the consent of the participants, distributed the questionnaires, and explained to them how to respond to the items.

Data Analysis Procedure

Data analysis is the process of collecting, modelling, and analysing data to extract insights that support decision-making (Creswell, 2015). Data was analysed using inferential statistics. Specifically, Multiple Linear Regression analytical test was deployed to analyse the data so as to answer the research question.

RESULTS AND DISCUSSION

Data Presentation and Analyses of Research Question

Research Question – What factors predict learning style preferences among pupils in studying Social Studies in public Junior High Schools in the East Mamprusi Municipality?

The aim of this research question was to determine the extent to which factors such as school-related, home-related, and personal factors predict learning style preferences among pupils in studying Social Studies. Multiple linear regression analytical test was used to analyse the data. Prior to the application of the multiple linear regression model, the researcher examined the assumption of multicollinearity with the tolerance and Variance Inflation Factor (VIF) scores, and the results (Table 3) showed that the Tolerance values for each predictor variable was greater than 0.10 while the VIF score was less than 10. These findings suggested that the assumption of multicollinearity was not violated. Consequently, the researcher proceeded to examine the results from the multiple linear regression as presented in Table 2. The findings showed that all the factors (school-related, home-related, personal) collectively explained 53.2% of variance in learning style preferences which was found to be statistically significant [F $(3, 226)$ = 85.731, $p<0.05$].

Table 2: Model Summary for Factors Predicting Learning Style Preferences

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.730[a]	0.532	0.526	0.298	0.532	85.731	3	226	0.000
Source: Field Data, 2022; n=230; Significance: 0.05									

Therefore, the study concluded that school-related, home-related, and personal factors jointly influenced learning style preferences among the pupils in studying Social Studies.

The study further examined the individual contributions of the factors in predicting learning style preferences among the pupils, and the results are presented in Table 3.

Table 3: Unstandardized and Standardized Coefficients for Factors Predicting Learning Styles Preferences of Pupils

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.696	0.132		12.873	0.000		
	School-related	0.207	0.042	0.320	4.944	0.000	0.493	2.029
	Personal factors	0.183	0.052	0.259	3.537	0.000	0.386	2.591
	Home-related	0.156	0.039	0.254	4.020	0.000	0.519	1.925

Source: Field Data, 2022, significance: $p < 0.05$

The data in Table 3 indicated that school-related factors ($\beta=0.259$, $t=3.537$, $p<0.05$), and home related factors ($\beta=0.254$, $t=4.020$, $p<0.05$) individually, statistically significantly predicted learning style preferences among the pupils. The data further indicated that school-related factors ($t=4.944$, $p<0.05$) had a more significant effect on the outcome variables, this was followed by home-related factors ($t=4.020$, $p<0.05$) and then personal factors ($t=3.537$, $p<0.05$).

Consequently, the researcher concluded that factors including school-related, home-related, and personal factors are critical determinants of learning style preferences among junior high school pupils in studying Social Studies in East Mamprusi Municipality.

Discussion of Results

The study found that school-related factors, home-related factors, and personal factors individually and collectively significantly predicted the learning style preferences of the pupils in learning Social Studies. This finding agreed with the findings of previous studies (Durukan et al., 2021; Alkooheji & Al-Hattami, 2018) which indicated that there are different factors that affect the choice and application of learning styles. The study agreed with the findings of Fajar et al. (2019) which indicated that student factors, home factors, and school factors affected the learning styles of students in Lahore School of Nursing, Pakistan.

Again, the findings of this study agreed with Bhattacharya's (2020) finding that home-related factors such as educational status of parents, occupational status of parents, level of academic help received from family members, tuition facility, time devoted for self-study at home affected the learning styles of the students. Additionally, the finding that students' personal factors and school-related factors predicted learning styles concurred with the finding of Ahmadi et al. (2020) that student factors and school-related factors affect the learning styles of students from Urmia, West Azerbaijan province.

The findings of this study also resonated with Ortiz-de-villate and Rodr's (2021) finding that factors such as socio-economic and cultural conditions of families, parental expectations towards their children's education as well as parental level of involvement in schools have significantly influenced the learning styles of the students. The consensus in research findings is interesting because the school, home and the learners themselves are critical actors in promoting effective learning among learners. It is, therefore, not surprising that these factors either individually or collectively play a significant role in determining the learning styles of the pupils in public Junior High Schools in the East Mamprusi Municipality.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

It is concluded from the study that, the factors that influence the choice of learning styles in studying Social Studies among the pupils of public Junior High Schools in East Mamprusi Municipality are broad and numerous. This conclusion was informed by the finding that school-related factors, home-related factors, and personal factors significantly predicted the preference for learning styles among the pupils. This conclusion also confirmed that the school, home as well as the learner are crucial elements in determining the learning styles of the pupils towards the study of Social Studies in the schools.

Recommendations

Consistent with the finding that school-related factors, home-related factors, and personal factors collectively and individually significantly predicted the learning style preferences of the pupils in learning Social Studies, it is recommended that management of the basic schools should adopt a comprehensive strategy to focus on all the factors that influence the choice of learning styles in studying Social Studies in public basic schools in the East Mamprusi Municipality.

Consequently, there is the need for an all-encompassing approach involving the school, the home, and the pupils themselves in efforts to identify and intensify effective practice of learning styles in relation to the study of Social Studies in pubic Junior High Schools in the East Mamprusi Municipality.

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