Public Junior High School Pupils' Perceptions of their Learning Style Preferences and their Relationship with Academic Achievement in Social Studies in East Mamprusi Municipality, Ghana

Hamisu Kasimu Meshanu[1], Kwaku Esia-Donkor[2]
[1]Department of Education, Gambaga College of Education, P. O. Box 33, Ghana
[2]Department of Educational Foundations, Faculty of Educational Studies, University of Education, O. Box 25, Winneba, Ghana

DOI: https://dx.doi.org/10.47772/IJRISS.2023.701130
Received: 09 October 2023; Accepted: 14 November 2023; Published: 16 November 2023

ABSTRACT

The study investigated learning style preferences of public junior high school pupils in studying Social Studies in the East Mamprusi Municipality in the North East Region of Ghana and their relationship with academic achievement in the subject. The Grasha and Riechmann's (1982) learning styles model guided the study. The cross-sectional descriptive survey design within the positivists' quantitative methodology was used to collect quantitative data using structured questionnaires. Data was collected from 230 participants selected through proportionate stratified random sampling technique for the study. With the aid of SPSS, descriptive (mean, standard deviation) and inferential statistics (Pearson product moment correlation) were used to analyse the data. Even though the study established that the pupils practiced a mixture of the learning styles in different intensities, the independent learning style was dominant among the pupils whereas the competitive learning style was least prevalent. The findings also pointed out that, learning styles jointly and individually related positively with the academic achievement of the pupils in studying Social Studies. Based on the findings, it was recommended among others that the East Mamprusi Municipal Education Directorate should liaise with the management of the public basic schools to organise orientation programmes for the pupils on the effective practice of learning styles towards the study of Social Studies in the schools.

Key words: Learning style preferences, Academic achievement, Junior High School pupils, Social Studies

INTRODUCTION

Many parts of the world, including Britain and the United States of America, witnessed the introduction of Social Studies as a subject when their societies were affected by violence, especially during the industrial revolution and its attendant social consequences (Adam, Odumah & Ngaaso, 2018). As a school subject, Social Studies encompasses the teaching of history and other social sciences such as Economics, Geography, Sociology, and Civics. but not merely as a single disciplinary knowledge made appropriately accessible to children and adolescents (Ross, 2020). Social Studies has always been a vehicle for the transmission of values and a determinant of social conventions as well as worldviews (Ross, 2020). According to Kankam (2013), Social Studies education is meant to assist learners construct potent social understanding and take seriously the obligation of democratic citizenship, which are the basic goals of teaching the subject.

The aim of Social Studies as a subject of study hinges on the promotion of civic competence, in terms of the knowledge and democratic dispositions required of pupils to be active and engaged participants in public life (National Council for Social Studies, 2016). Although civic competence is not the only responsibility of Social Studies nor is it exclusive to the field, it is more central to Social Studies than to any other subject area studied in schools (National Council for Social Studies, 2016). This highlights the important role which

Social Studies as a subject of study plays in preparing pupils to become committed to democratic values, collaboration, decision-making, and problem solving. Scholars have argued that the realization of the aims of Social Studies is very much dependent on a number of factors. For instance, Angbing (2016) reports that students' performance in social studies is determined by factors related to teachers, the school environment, socio-economic background and pupils' inherent characteristics. This supports the views of Ogunsanya and Olayinka (2020) that some determinants of pupils' academic achievement are inherent, such as study habits and learning style preferences.

According to Stenmayr and Wirthwein (2015) academic achievement encompasses performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in school, college, and university. They further indicate that in most educational systems, academic achievement is defined in terms of cognitive goals that either apply across multiple subject areas or include the acquisition of knowledge and understanding in specific intellectual domains such as numeracy, literacy, science and Social Studies. This implies that academic achievement is a multifaceted construct that comprises different domains of learning. Hence, the field of academic achievement covers a broad variety of educational outcomes because its determination depends on the indicators used to measure it. Scholars have cited high academic achievement as a major indicator of progress in education. For instance, Kayode and Ayodele (2015) posit that a country's social and economic development are directly linked with pupils' academic achievement. However, academic achievement is influenced by a variety of factors (Mushtaq & Khan, 2015). It has emerged from empirical studies that several internal factors predict the academic achievement of pupils, one of such factors being learning style preferences. For instance, Kuo, Chu, and Huang (2015) argue that knowing students' learning style preferences and personalizing instruction to these styles could significantly enhance the pupils' satisfaction with the learning task, improve academic performance and reduce the amount of time spent on learning tasks.

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). According to Kazu (2009) when students are aware of their best learning style, it helps them to increase the acquisition of knowledge within a specific time frame. This suggests that learning style is directly linked to student learning outcomes and that the effective practice of learning styles enhances academic achievement whilst ineffective practice of learning styles reduces performance as regards the learning tasks.

In spite of the numerous studies carried out on learning styles and subsequently on the processes of matching these to teaching styles, a number of scholars have taken the view that there is not enough evidence from research to indicate that pupils learn better through their own specific learning style preferences (Kazan, 2018; Newton & Miah, 2017). Contrary to the views of these scholars, other empirical studies that investigated learning styles and academic achievement of pupils in various subjects of the school curriculum have established that the two variables in question related positively (Magulod, 2019; Bright & Matilda, 2018; Alavi & Toozandehjani, 2017; Ammara & Syeda, 2017).

Statement of the Problem

Social Studies as a subject aims at preparing the youth in school to become good citizens who can make positive impact in the development of their communities and Ghana as a whole. This suggests why Ghana's Ministry of Education (MOE) (2019) developed the National Pre-tertiary Education Curriculum Framework

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS |Volume VII Issue X October 2023

(NPTECF) to provide policy direction in the enactment of the official curriculum for Social Studies among other subjects in the basic schools. At the Junior High School level, the NPTECF has carved out a Common Core Programme (CCP) for Social Studies, which targets basic seven (7) to basic nine (9) pupils (MoE, 2019). The attainment of objectives for Social Studies as a subject in the Common Core Programme at the Junior High School level has gained reasonable attention among Social Studies educators. However, an examination of academic achievement of Junior High School pupils in Social Studies in the Basic Education Certificate Examination (BECE) in East Mamprusi Municipality shows a downward trend in performance as depicted in Table 1.

Table 1: Academic Achievement of Pupils in Social Studies

Year	Pass Rate (%)	Failure Rate (%)
2017	41.4	58.6
2018	39.5	60.5
2019	43.2	56.8
2020	36.7	63.5

Source: East Mamprusi Municipal Examination Unit, Ghana Education Service (2017-2020)

Data in Table 1 show that for four consecutive years (2017 to 2020), pupils' performance in Social Studies remained low as the pass rate for the years under review fell below fifty percent (50%) whereas the failure rate for the same BECE years exceeded fifty percent (50%). The year 2017 recorded a failure rate of 58.6%. In 2018 the failure rate increased to 60.5% while in 2019, the failure rate reduced to 56.8%. Again, in 2020, the failure rate increased to 63.5%.

In a study to examine the effectiveness of the Social Studies curriculum, Eshun (2020) recommended that since Social Studies is a positive attitude building subject through time and space, the Ghanaian school curriculum should be enhanced to reflect the current happenings in society to help develop 21st century youth who will be well resourced to keep the country on a sound developmental path. Implicit in the view of Eshun (2020) is the inference that the Social Studies curriculum, if well-structured and implemented could raise individuals who are selfless and possess the requisite knowledge and skills for positive development of society.

Empirical studies have established a positive relationship between learning styles and academic performance (Ammara & Syeda, 2017; Bright & Matilda, 2018; Evans & Julius, 2015). Other scholars have however taken the view that there is inadequate evidence from research to indicate that pupils learn better through their own specific learning styles (Kazan, 2018; Newton & Miah, 2017; Pashler, McDaniel, Rohrer & Bjork, 2008). Previous studies have focused attention on documenting pupils' learning styles and how these relate with academic achievement in different subjects and contexts; based on a variety of learning style theories such as the Fleming' s VAK theory (Esia-Donkoh, Bentil & Nyatsikor, 2020), and Honey and Mumford's theory (Cartney, 2000). The current study however employed the Grasha-Riechmann's (1982) learning style theory to investigate the learning style preferences of public Junior High School pupils in the East Mamprusi Municipality in learning Social Studies.

Objectives of the Study

The objectives of study were to:

1. find out the learning style preferences among public Junior High School pupils in studying Social Studies in the East Mamprusi Municipality.

2. examine the relationship between learning style preferences of pupils in public Junior High School in the East Mamprusi Municipality and their academic achievement in Social Studies.

Research Questions

1. what learning style preference is dominant among pupils in public Junior High School in the East Mamprusi Municipality?
2. what is the relationship between learning style preferences of pupils in public Junior High School in the East Mamprusi Municipality and their academic achievement in Social Studies?

REVIEW OF RELATED LITERATURE

The review of related literature was done based on theoretical, conceptual and empirical perspectives.

Grasha-Riechmann Learning Style Model

Montgomery and Groat (1998) in their study on pupils' learning styles and the implications for teaching report that the Grasha-Riechmann learning style model is distinct from the other models because it is based on pupils' responses to actual classroom activities rather than a more general assessment of personality or cognitive traits. Grasha and Riechmann (1982) argue that learning styles can be identified through social and emotional dimensions such as attitudes toward learning, teachers, classmates, content and the classroom environment. Grasha and Riechmann classify learning styles into six categories, each of which has its own characteristics as described below.

In the avoidant learning style, pupils tend to be at the lower end of the grade distribution. They are characterized as having high absenteeism, organize their work poorly, and take little responsibility for their learning. These learners are not enthusiastic about learning content. Also, they are not interested in attending class. They do not cooperate with pupils and teachers in the classroom. Avoidant learners are uninterested and overwhelmed by what goes on in class.

Learners who practice the participant learning style are characterized as willing to accept responsibility for self-learning and relate well to their peers. They are good citizens in class. They enjoy going to class and take part in the course activities as much as possible. Participative learners are typically eager to do as much of the required learning tasks as their abilities will allow.

For the competitive learning style, pupils are described as suspicious of their peers leading to competition for rewards and recognition. They learn material in order to perform better than others in the class. The driving force that leads them is the urge to compete with other pupils in a course for the rewards that are offered. Another characteristic of this type of learners is that they like to be the centre of attention and to receive recognition for their accomplishments in class.

Collaborative learning style is typical of pupils who feel they can learn by sharing ideas and talents with their peers or classmates. Such pupils tend to cooperate with teachers and peers and like to work with others. At a general level, collaborative learners have preferences in favour of lectures with class discussions in small groups, small seminars, student-designed aspects of courses and group rather than individual projects.

Dependent learning style is characteristic of pupils who show little intellectual curiosity and who learn only what is required. They view teacher and peers as sources of knowledge and support in respect of the learning process. Such pupils do not only look up to authority figures for specific guidelines on what to do and how to do it but also have preferences for outlines or notes on the board, clear deadlines and instructions for assignments, teacher centred classroom methods and as little ambiguity as possible in all aspects of the

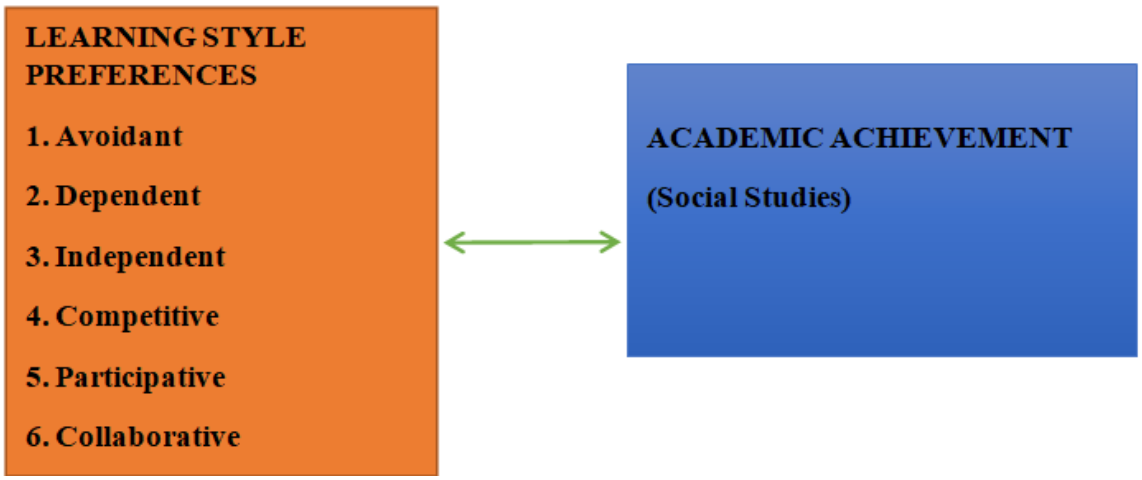
courses they take.

Independent learning style encapsulates pupils who like to think for themselves. They prefer to work on their own but will listen to the ideas of others in the classroom. Such pupils tend to learn the content they feel is important and are confident in their learning abilities. They have preferences in respect of independent study, working alone, self-paced instruction, taking assignments that provide opportunity to think independently, self-designed projects, and student-centred rather than teacher-centred course designs. The study was hinged on the learning style model propounded by Grasha and Riechmann (1982) to explore respondent's perceptions of their learning styles and the relationship with their academic achievement in Social Studies.

Conceptual Framework

The conceptual framework of the study as depicted in Figure 1 presents two main variables: Learning style as the independent variable which captures the learning style preferences based on Grasha-Riechmann's (1982) model and include Avoidant, Dependent, Independent, Competitive, Participative and Collaborative learning styles. The dependent variable in the study is academic achievement in Social Studies.

Figure 1 Conceptual Framework



Source: Designed by Researchers, 2022

Concept of Learning Styles

The concept of learning styles has elicited an intense interest and discussion among professional educators at all levels of the educational system (Pashler, McDaniel, Rohrer & Bjork, 2008). Smith and Dalton (2005) posit that a learning style is a unique and habitual behaviour of acquiring knowledge and skills through everyday study or experience. Learning style is the way in which each learner begins to concentrate on, process, absorb, and retain new and difficult information (Dunn & Dunn, 1990). This implies a necessity for educators to determine what is most likely to trigger each student's concentration, how to maintain it, and how to respond to his or her natural processing style to produce long-term memory and retention.

Academic Achievement

Academic achievement is the progress made towards attaining the goals determined by individuals or educational institutions and has a direct link to reaching the objectives framed in the curriculum (Kazazoglu, 2013).The validity evidence of students' academic achievement in any subject of study exists in the form of scores obtained from teacher-made tests and other forms assessment tools used to gather performance records (Steve, 2000). Various learning styles along with learning environment influence academic

achievement of students either positively or negatively (Kazazoglu, 2013).

Relationship between Learning Styles and Academic Achievement

Evidence on the relationship between learning styles and academic performance has been noted a number of studies. A study carried out by Nursen, Tomruk, Yeşilyaprak, Karadibak and Savcı (2018) with physiotherapy students revealed the positive relationship between academic performance and participatory learning style. Findings from other empirical studies have however established that there was no significant relationship between learning styles and academic achievement of the students (Roashani & Albina, 2021). Literature on previous research has therefore demonstrated inconsistent results on the relationship between learning style preferences and students' academic achievement. This study sought to find out the relationship between learning style preferences of students and their academic achievement in Social Studies.

METHOLOGY

Philosophical Underpinning of the Study

This study hinged on ideas of the positivists' philosophy regarding how knowledge is created. Pranas et al. (2018) posit that positivism is an epistemological perspective that involves the collection and analysis of quantitative data with the aim of exercising independence and freedom from subjective opinions.

Research Design

The 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 researchers an opportunity to collect numeric data from respondents, so as to examine relationships between the variables of study which sought to describe the nature of learning styles and how these relate with academic achievement 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 School in East Mamprusi Municipality who had studied in their respective schools for at least one academic year. This was made up of 811 girls and 751 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

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS |Volume VII Issue X October 2023

(Orodho, 2009). The 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, Ongena, and Aarts (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 circuit and their respective gender composition. Then, the number of pupils from each circuit and gender was selected as presented in Table 2.

Table 2: 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

For instance, in Circuit A, there were 164 pupils representing 10% of the total target population (1562). Therefore, 10% of the sample size (234), representing 23, was allocated to the circuit. The statistics further showed that there were 95 males representing 58% whilst the females were 69 constituting 42%. Using the same proportions, the researcher selected 13 males (58% of 23) and 10 females (42% of 23) respectively from Circuit A. The same process was used to select the pupils in all the 9 circuits. The simple random sampling technique with replacement was used to select the individual pupils in each circuit separately for the study. In this process, the researcher assigned codes to each pupil in each circuit. Then, the researcher put all the codes in a bowl, shuffled them, and picked one code from the bowl while closing his eyes. The research then put the code that was picked back into the bowl, shuffled the codes again in the bowl, and picked the next code. This process continued until all the required number for the circuits as well as males and females were selected. Therefore, the sample of the population was 234 pupils, made up of 135 boys and 99 girls.

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 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. Data on academic achievement of the respondents in Social Studies was gathered in Section Four of the questionnaire. The participants were required to rate statements on a 5-point Likert-type scale, with response options which include: Strongly Agree (SA) = 5, Agree (A) = 4, Undecided (U) = 3, Disagree (D) = 2 and Strongly Disagree (SD) = 1. The respondents were required to choose only one option to reflect

their opinion on their learning styles preferences.

Pre-testing of Data Collection Instrument

Pre-testing of research instruments has been described by Gerrish and Lacey (2006, p. 538) as "A preliminary study carried out before the full research to test out data collection instruments and other procedures". 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 supervisors, colleagues and experts who are knowledgeable in relation to the issues in the study.

Reliability of Instrument

Reliability is the stability and consistency of scores from an instrument (Braun, Clarke, Hayfield & Terry, 2019). These scholars are of the view that research instruments are reliable if there is the production of explicit and consistent results upon using the instruments severally in different timelines. Reliability of the questionnaire used in this study addressed as internal consistency of the items. 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 researchers seek permission from the East Mamprusi Municipal Education Directorate to gain access to the public Junior High Schools in the nine circuits. The researchers 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 descriptive and inferential statistics. Polit and Beck (2018) have argued that the use of descriptive statistics to analyse data enables the researcher to summarize and describe quantitative data obtained from empirical evidence. Descriptive statistics including mean and standard deviation were used to analyse data to provide answers to research question one which focused on respondents' learning style preferences

The Pearson product moment correlation was employed to analyse research question two because according

to Bryman and Bell (2012), it is a suitable inferential statistic for determining the bivariate correlation between two variables.

RESULTS AND DISCUSSION

Data Presentation and Analyses of Research Questions

Research Question 1 – What learning style preference is dominant among pupils in public Junior High School in the East Mamprusi Municipality?

This research question sought to examine the perceptions of public Junior High School pupils in the East Mamprusi Municipality about their learning style preferences. The learning styles involved in the analysis included collaborative, avoidant, participant, dependent, competitive, and independent learning styles. Descriptive statistics including mean and standard deviation were used to analyse the data, and the findings are presented in Table 3.

Table 3: Learning Styles Preferences of the Pupils

Learning styles	Mean	Std. Deviation
Independent learning style	3.819	0.543
Avoidant learning style	3.793	0.553
Participant learning style	3.778	0.569
Collaborative learning style	3.767	0.614
Dependent learning style	3.763	0.590
Competitive learning style	3.728	0.498

Source: Field Data, 2022

An examination of the findings in Table 3 revealed that the standard deviation for each learning style was within the acceptable threshold of ±3 for normal distribution of data (Babbie, 2017). The findings also showed that the pupils preferred and practiced the independent learning style most (M=3.819, SD=0.543), followed by avoidant learning style (M=3.793, SD=0.553), participant learning style (M=3.778, SD=0.569), collaborative learning style (M=3.767, SD=0.614), and dependent learning style (M=3.763, SD=0.590) whilst the competitive learning style was least preferred by the pupils (M=3.728, SD=0.498). The findings implied that independent learning style was dominant among the pupils whilst the competitive learning style was least dominant among the pupils. However, it is instructive to state that with the 5-point Likert scale which was used to measure learning styles preferences of the pupils where the mean score was 3.0 (1+2+3+4+5÷5), the findings pointed out that all the learning styles were rated above the mean. Therefore, the researcher concluded that the pupils highly preferred all the learning styles outlined in the study but in varied intensities.

Research Question 2: What is the relationship between learning style preferences of pupils in public Junior High School in the East Mamprusi Municipality and their academic achievement in Social Studies?

This research question investigated the relationship between respondents' learning style preferences and their academic achievement in Social Studies. The learning styles included in the analysis were collaborative, avoidant, participant, dependent, competitive, and independent learning styles whilst academic achievement of the pupils was based on Social Studies results. The Pearson product moment correlation was used to analyse the data. Kothari (2011) recommended that coefficients of 0.5 but less than implied a strong relationship, and coefficients equal to or greater than 0.3 but less than 0.5 indicated a

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS |Volume VII Issue X October 2023

moderate relationship. Again, coefficients less than 0.3 portrayed a weak relationship. These suggestions informed the interpretation of the obtained coefficients. The results are presented in Table 4.

Table 4: Pearson Correlation Matrix for Learning Styles and Academic Achievement in Social Studies

	Learning style		1	2	3	4	5	6	7	8
1.	Overall learning style	Pearson Correlation	1							
		Sig. (2-tailed)								
2.	Independent	Pearson Correlation	0.683*	1						
		Sig. (2-tailed)	0.000							
3.	Avoidant	Pearson Correlation	0.773*	0.651*	1					
		Sig. (2-tailed)	0.000	0.000						
4.	Collaborative	Pearson Correlation	0.711*	0.505*	0.594*	1				
		Sig. (2-tailed)	0.000	0.000	0.000					
5.	Dependent	Pearson Correlation	0.682*	0.503*	0.563*	0.727*	1			
		Sig. (2-tailed)	0.000	0.000	0.000	0.000				
6.	Competitive	Pearson Correlation	0.742*	0.457*	0.534*	0.559*	0.653*	1		
		Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000			
7.	Participant	Pearson Correlation	0.699*	0.358*	0.491*	0.263*	0.410*	0.449*	1	
		Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000		
8.	Academic performance	Pearson Correlation	0.785*	0.794*	0.716*	0.747*	0.766*	0.779*	0.776*	1
		Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

n=230 *Correlation is significant at p< 0.05 (2-tailed)

The results in Table 4 revealed that there was strong and statistically significant positive relationship between pupils' learning styles and their academic achievement in Social Studies (r=0.785, p<0.05, 2-tailed). The findings also showed that there were relationships between the individual learning styles of the pupils and their academic achievement in Social Studies. For instance, findings discovered that there was strong and statistically significant positive relationship between the pupils' independent learning style and their academic achievement in Social Studies (r=0.794, p<0.05, 2-tailed). Again, there was a strong and statistically significant positive relationship between avoidant learning style of the pupils and their academic achievement in Social Studies (r=0.716, p<0.05, 2-tailed). Additionally, there was strong and statistically significant positive relationship between collaborative learning style of the pupils and their academic achievement in Social Studies (r=0.747, p<0.05, 2-tailed).

It is also observed from the results that there was strong and statistically significant positive relationship between the pupils' dependent learning style and their academic achievement in Social Studies (r=0.766, p<0.05, 2-tailed). Furthermore, the findings established that there was strong and statistically significant positive relationship between competitive learning style of the pupils and their academic achievement (r=0.779, p<0.05, 2-tailed). Finally, the relationship between the pupils' participant learning style and their academic achievement was strong, positive and statistically significant (r=0.776, p<0.05, 2-tailed). Based on these results, it was established that the learning styles of the junior high pupils are crucial in determining their academic achievement in Social Studies in the East Mamprusi Municipality.

Discussion of Results

The findings on the first research question established that pupils preferred a mixture of learning styles in

studying Social Studies, and that all the learning styles outlined in the study were highly practiced among the pupils. The study further revealed that the independent learning style was dominant among the pupils whilst the competitive learning style was least prevalent among the pupils. This finding confirmed the finding of previous studies, which pointed out that learners practice a variety of learning styles (Kemi et al., 2020; Ogunsanya & Olayinka, 2020). The inference from this finding as well as the findings of previous studies that learners probably apply different learning styles based on varied content and context. Therefore, the learners are able to opt for learning styles in situations that are mostly likely to yield desirable results. However, it is unclear whether learners are aware of their learning styles, and when it is most appropriate for them to alter their learning styles. This point is crucial because uncoordinated change in learning styles is likely to fail in producing the intended outcomes. Again, the study has provided evidence to support the claim that Grasha and Riechmann's (1982) learning style model receives applicability from diverse cultural contexts.

For the second research question, the finding established that learning styles jointly and individually related positively with the academic achievement of the pupils in studying Social Studies. This finding implied that the learning styles of the pupils are important determinants of academic achievement among the pupils. This finding concurred with the findings of previous studies (Kate et al., 2022; Kemi et al., 2020; Ghanney et al., 2019) which concluded that learning styles of learners are essential in promoting the academic achievement of learners. This implies that any attempt to address the issue of learning styles among the pupils need to take into cognisance school, home, and personal factors to ensure success.

Research Implications

This study provides a basis for the extension of knowledge in the field of learning styles in the context of East Mamprusi Municipality, Ghana, as previous investigations on the subject of learning styles focused on theories either than Grasha-Riechmann's (1982) theory which postulates six learning styles (avoidant, participant, dependent, independent, competitive and collaborative). Even though the study established that the pupils practiced a mixture of the learning styles in different intensities, the independent learning style was dominant among the pupils whereas the competitive learning style was least prevalent. This indicates the presence of individual diversity among learners which suggests that all students be given adequate opportunities to learn through their preferred style by diagnosing individual learning style preferences and personalizing instruction to these styles. The research findings suggest the need for Social Studies teachers to prepare lessons and employ instructional strategies to suit each pupils' learning style preferences in order to enhance their academic achievement in the subject.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

From the findings, it is concluded that Grasha and Riechmann's (1982) learning style theory is relevant to the Ghanaian basic school context, especially in the study of Social Studies at the junior high school level. This came to the fore when the pupils practiced all the learning styles, including collaborative, avoidant, participant, dependent, competitive, and independence learning styles. Even though the study established that the pupils practiced these learning styles in unequal intensities, all these learning styles were highly applied in studying Social Studies in the schools.

The finding of the study further pointed out that the learning styles of the pupils individually and collectively related significantly to the academic achievement in Social Studies. Hence, the conclusion is that the learning styles of the pupils is a vital determinant of academic achievement in Social Studies. In addition, the study concluded that promoting the effective practice of the learning styles outlined in the study is one of the ways in improving the academic achievement of the pupils in Social Studies in public

Junior High Schools in the East Mamprusi Municipality.

Recommendations

Based on the major findings and the conclusions drawn in the study, the following recommendations are made:

1. In line with the finding that the pupils practiced a mixture of learning styles in studying Social Studies, and that the independent learning style was dominant among the pupils whilst the competitive learning style was least prevalent, it is recommended that the East Mamprusi Municipal Education Directorate should liaise with the management of the public basic schools to organise orientation programmes for the pupils on the effective practice of learning styles towards the study of Social Studies in the schools.
2. Based on the finding that learning styles jointly and individually related positively with the academic achievement of the pupils in studying Social Studies, it is recommended that the East Mamprusi Municipal Education Directorate and the management of the basic schools should encourage and support the pupils to intensify the practice of all the learning styles outlined in the study so as to improve their academic achievement in Social Studies.

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