

Kweku Esia-Donkoh, 2019

Volume 5 Issue 1, pp. 592-608

Date of Publication: 16th April 2019

DOI-<https://dx.doi.org/10.20319/pijss.2019.51.592608>

This paper can be cited as: Esia-Donkoh. K., (2019). Students' Personal Characteristics and Differences in their Learning Style Preferences in Public Colleges of Education in the Central-Western Zone of Ghana. PEOPLE: International Journal of Social Sciences, 5(1), 592-608.

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STUDENTS' PERSONAL CHARACTERISTICS AND DIFFERENCES IN THEIR LEARNING STYLE PREFERENCES IN PUBLIC COLLEGES OF EDUCATION IN THE CENTRAL-WESTERN ZONE OF GHANA

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Abstract

The study investigated the differences in learning style preferences of students of public Colleges of Education (CoEs) in the Central-Western Zone of Ghana based on their personal characteristics (sex, level of study and college setting), and how these personal characteristics influence the students' choice of learning style preference. The study adopted the cross-sectional survey design. Purposive and random sampling techniques were used to sample 1,396 students from five public CoEs. Frequencies with percentages, independent samples t-test, and regression and ANOVA were used to analyse the data. Generally, a combination of visual, auditory and kinaesthetic learning styles were preferred by the students. Statistically significant differences in the learning style preferences of the students in terms of their sex and setting of college were observed. However, there were no statistically significant differences in the students' learning style preferences based on their level of study. Again, a statistically significant positive influence of students' demographic variables on their learning style preferences was established even though the influence was very small. It was concluded that most of the students prefer the use of more than one learning style, and so tutors must comprehend differentiated learning of their students in order to adopt different teaching and assessment techniques to suit the learning needs of the

students. It was recommended among others that tutors should encourage students to adopt multiple learning styles and effective study habits to enhance their academic endeavours.

Keywords

Learning Style, Preference, Level of Study, Setting of College, Sex

1. Introduction

Learning involves some changes in behaviour as a result of experience, and that such changes endure over a period of time (Ibrahimoglu, Unaldi, Samancioglu & Baglibel, 2013). This suggests that learning is a relatively permanent change in behaviour through experiences and practices an individual goes through. People are different based on their learning styles and as such learn better through different means. Perhaps, this accounts for the assertion by Khanal, Shah, and Koirala (2014) that the differences observed among students in the lecture room in terms of how they gain knowledge is largely based on the different learning styles of the students. Lai and Lee (2019, p. 1266) also state that everyone learn, but not all learn in the same way This implies that students learn differently, gain knowledge and understand concepts through different modes and experiences (Obiefuna & Oruwari, 2015).

Khanal, Shah, & Koirala (2014) explain learning styles are the ways through which people obtain, decode and understand information. For Ibrahimoglu, Unaldi, Samancioglu, and Baglibel (2013), learning styles are the ways individuals follow to receive and process information. Learning styles are the preferred ways through which individuals absorb, process, comprehend and retains information (Lai & Lee, 2019, p. 1266). It is argued that over seventy models of learning styles exist and these pay attention to various aspects and characteristics of learning styles, such as individuals' cognitive processes, learning processes, personality traits, thinking styles, and abilities (Bostrom & Hallin, 2013 as cited in Aina-Popoola & Hendricks, 2014). Lai and Lee (2019, p. 1266) support this by pointing out that several models have been developed with the aim of explaining learning styles from different perspectives. Alkhasawneh (2013) therefore, explains that, the planned and careful ways through which students learn to a large extent, determine their opinions and feelings towards studies, and their comprehension of what they learn.

Learning style as a concept has been studied for the past fifty decades, and have been grouped by many researchers as family styles but the most often heard of is the Visual, Auditory and Kinesthetic (VAK) Learning Style Model (Li et al., 2016). Abante, Almendral, Manansala, and Mañibo (2014) therefore posit that there are numerous ideas about learning styles and one of these ideas is the VAK Learning Style Model. According to Mackay (2007)

as cited in Saadi (2012), the VAK Learning Style Model is seen as one of the traditional sets of learning ideas in the field of education. The model talks of how students learn through the means of viewing, listening and touching (Federal Aviation Administration, 2009). Hence, the VAK Model which is popularly used to recognise different learning styles is perceived to be a learning preference which puts learners in groups based on their sensory preferences (Saadi, 2012). It is argued by Dreeben (2010) that the practical nature of VAK in making assessments about how students learn is a likely reason for its use in the field of education. Byrnes (2010) therefore intimates that the VAK Learning Style Model can be used to help tutors to adopt varied learning techniques during instruction and learning activities.

According to Mills, Ayre, Hands, and Carden (2010), visual learners are individuals who make use of what they see to make meaning of what they are taught. They, therefore, learn better when tutors make use of pictures, diagrams, cartoons, and demonstrations during instruction and learning processes. Such students find it uncomfortable and difficult to understand what they are taught when tutors do not make use of visual aids such as charts, maps, notes, and flash cards. Auditory learners understand and benefit from what is taught by hearing and listening to information presented. Thus, such students mostly prefer their tutors to use the lecture technique during lectures. They also like to read aloud to themselves, and prefer background music when doing their private studies. Kinesthetic learners demonstrate their ability to understand information better when they experience situations and events through active participation. They prefer to write out important facts during lecture. Such learners enjoy hands-on activities such as laboratory work, role play and making models.

The VAK Model of learning style approach has been criticised as a weak version because there is no evidence of its validity or reliability (Sharp, Bowker, & Byrne, 2008). There is also the argument that a learning style that labels students in a particular way limits their potential for learning (Hattie, 2011). Another critique of VAK is that learners store information when they are able to make meaning out of it and not necessarily through their senses (Li et al, 2016;). However, literature shows how beneficial the VAK Learning Style Model is in many situations, even though its validity has been questioned (Li et al, 2016). Thus, it may not be appropriate to deny the importance of VAK learning style because it could be studied further and developed for its effective application in different teaching and learning situations.

Literature indicates that about 65% of the world's population are visual learners, 30% are auditory learners, and 5% are kinesthetic learners, and that every individual possess one learning style or a combination of different learning styles (Abante, Almendral, Manansala,

& Mañibo, 2014). Using the VAK Learning Model, it was found out from a study on learning style preferences of adults that 34% preferred a visual style, 34% preferred auditory style, and of the remaining participants, 23% preferred kinesthetic style, and 9% preferred multimodal learning style (Lisle, 2007). The findings portray that relatively more of the learners preferred visual and auditory learning. They also found out that kinesthetic learning style was the preference of younger learners as compared to adult learners. This could be the reason for the argument by Alharbi, Paul, Heskens, and Hannaford (2011) that learning styles are not stable and as a result, students may adopt different styles based on their subject and the environment in which they learn.

Several studies have been conducted using various learning style models including VAK Learning Style Model. According to Raddon (2007) sex is generally classified as one of the variables used in conducting studies on learning styles. according to Saadi (2012) research findings have indicated that differences exist among males and females when it comes to their learning style preferences. A study by Wehrwein, Lujan, and DiCarlo (2007) revealed that 54.0% and 12.5% of the female and male respondents respectively, preferred a single learning style. The study also established that among the female respondents, 4.2% preferred visual learning, 16.7% preferred textual learning materials and 33.3% preferred kinesthetic learning. However, the learning style among the male respondents seemed to be the same in terms of their auditory, read/write and kinesthetic learning styles. It was concluded from the study that different learning style preferences existed between male and female learners.

A similar study by Lincoln and Rademacher (2006) established a statistically significant difference between the learning style preferences of male and female learners. In the same study, the female learners preferred auditory learning style while the male learners preferred kinesthetic learning style. Ramayah et al. (2009) also concluded from a similar study that the visual learning style preference of students was influenced by gender where female students preferred to use more of visual and auditory learning styles as compared to their male counterparts. Furthermore, Dobson (2009) found out that a significant relationship existed between sex and learning styles. Specifically, the findings revealed that 49% of male students preferred a visual learning style, 29% preferred read/write style, 17% preferred auditory style, and 5% preferred kinesthetic style. However, 46% of the female students were found to be visual learners, 27% were auditory learners, 23% were read/write learners while 4% were kinesthetic learners. On the contrary, Lai and Lee (2019, p. 1270) established from their study that there were no differences in the learning style preferences of male and female

students. Other studies have concluded that there is no difference between male and female students in terms of their learning style preferences (Shenoy & Shenoy, 2013; El Tantawi, 2009; Baykan & Naçar, 2007).

Literature recognises that apart from cognitive abilities, skills and talents of students, learning style also impact on students' success in the lecture room (Ramayah, Nasrijal, Leong, & Sivanandan, 2011). Every student is a unique learner and no two people are exactly the same, implying that no two students learn exactly the same way. Research findings reveal that identifying and understanding learning styles are likely to enhance students' effectiveness in activities both in and outside the classroom (Dembo & Howard, 2007). This implies that students who apply their learning styles in their studies have a greater probability of improving on their self-confidence, and self-esteem. Such students could also have the ability of developing motivation to learn, gaining an insight into their own strengths and weaknesses, maximising their natural abilities and skills, reducing their anxiety in performing in classroom activities, and generally, excelling in their academic endeavours.

Understanding learning styles of students have good implications for tutors. When students' learning styles are addressed, it helps tutors in selecting appropriate and varied methods, techniques and strategies that will ensure effective students' engagement during lectures (Marek, 2013). Every student has a learning style and this must be understood by tutors in order to enhance teaching and learning. This implies that when tutors of public CoEs in the Central-Western Zone of Ghana incorporates the knowledge of students learning style preferences in their instructional processes, it will help achieve instructional goals and consequently improve learning outcomes among students. It is therefore necessary for tutors to vary their instructional techniques to give students the chance to undertake learning activities in an enabling environment that suits their learning style preferences. Cooper (2007) postulates that tutors' knowledge and understanding of their students' learning styles may assist them (tutors) to identify and address the learning problems of their students to become more effective learners. Hence, when tutors of public CoEs in the Central-Western Zone of Ghana have adequate information about their students' learning styles, they (tutors) would be more concerned and guided in the selection of appropriate instructional techniques and strategies to achieve instructional objectives.

Students are different in terms of their background, and as a result, learn differently. It is therefore expected that tutors in public CoEs in the Central-Western Zone of Ghana have an idea about their students' learning style preferences and adopt teaching techniques to suit them. However, informal interviews with some students in these colleges seem to suggest

that most of their tutors adopt the lecture technique in teaching to the detriment of many students who prefer varied teaching techniques to suit their learning styles and needs. The question is, do these tutors have any idea about the learning style preferences of their students which informs their teaching style (lecture technique)? In Ghana, there seems to be no study on learning style preference of students in public CoEs.

It is asserted that demographic factors such as sex, classification and course level, as well as educational settings, influence students' learning style preferences (Obiefuna & Oruwari, 2015). Research findings have also established that sex is a personal variable that accounts for the learning style preferences of students (Hamidon, 2015; Abante, Almendral, Manansala, & Mañibo, 2014; Saadi, 2012). In Ghana, there seems to be no study on the learning style preference of students in public CoEs. This study, therefore, sought to investigate the learning style preference of students in public CoEs in the Central-Western Zone of Ghana, and how sex, level of study, and college settings as demographic variables, influence the students' learning style preferences.

Apart from adding to knowledge and literature, the findings of this study may be of help to students in public CoEs in the Central-Western Zone of Ghana to enable them become conscious of their learning style preferences towards the achievement of their educational successes. The findings may help identify the demographic variables that influence students' learning style preferences in these colleges. Again, the findings may inform the principals of the colleges to institutionally formulate strategies that would encourage tutors to consider learning style preferences of students during the teaching and learning processes. As such, tutors who may not have previously thought of and identify learning style preferences of their students may be encouraged and assisted to do so in order to thoughtfully and systematically design learning experiences that match these preferences. Furthermore, the findings may be of great benefit to other researchers who may want to conduct further studies in other zones in Ghana to continue the discussion on the topic. The following research questions were therefore formulated to guided the study:

- i. What are the learning style preferences of students in public CoEs in the Central-Western Zone of Ghana?
- ii. What differences exist in the learning style preferences of male and female students in public CoEs in the Central-Western Zone of Ghana in terms of their demographic characteristics (sex, level of study, and setting of college)?

- iii. What is the influence of demographic variables (sex, level of study and setting of college) of students in public CoEs in the Central-Western Zone of Ghana on their learning style preferences?

2. Methodology

2.1 Participants

One thousand, three hundred and ninety-six (1,396) respondents were sampled from the public CoEs in the Central-Western Zone of Ghana. The purposive and stratified sampling techniques were used in selecting the respondents. The stratification was done based on the students’ sex, level of study, and college setting. The regions of Ghana have been put into five zones designated by regional groupings as organized by National Conference of Principals of Colleges of Education (PRINCOF). One of the zones is the Central-Western Zone which has six colleges made up of two female single-sex colleges and four mixed-sex colleges. Figure 1 shows the setting of the study where the participants were obtained from.

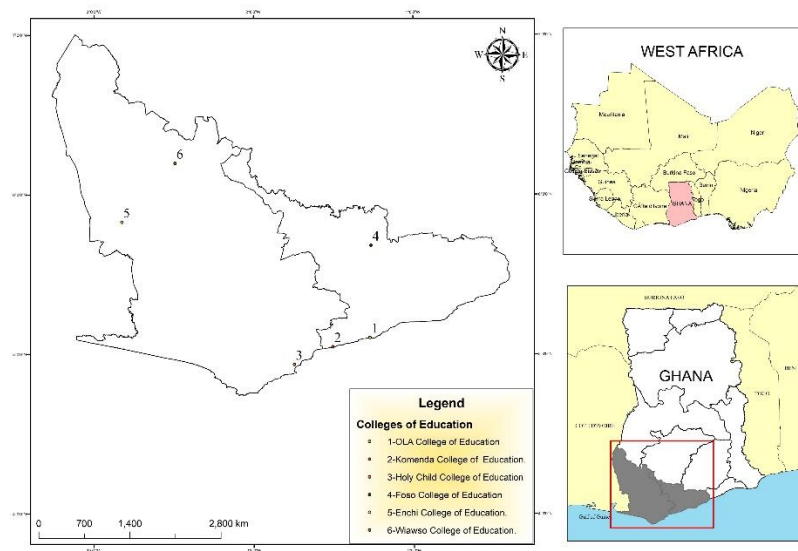


Figure 1: Map Showing Public Colleges of Education in the Central-Western Zone

The participants were made up of Level 100 and Level 200 students from the Colleges. Level 300 students were not part of the study because at the time of the data collection, they were on the ‘OUT’ segment (teaching practice) of their programme. The analysis of the demographic data is presented in Table 1.

Table 1: Demographic Distribution of Respondents

Demographic Variables	Response	Frequency (n)	Percentage (%)
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Sex	Male	376	26.9
	Female	1020	73.1
	Total	1376	100.0
Level of Study	Level 100	703	50.4
	Level 200	693	49.6
	Total	1376	100.0
Setting of College	Single-sex	712	51.0
	Mixed-sex	684	49.0
	Total	1376	100.0

The data in Table 1 shows that 376 (26.9%) of the respondents were males while 1,020 (73.1%) were females. It was also established that 703 (50.4%) of the participants were Level 100 students while 693 (49.6%) were Level 200 students. Again, 712 (51.0%) of the participants were in single-sex (female) Colleges while 684 (49.0%) were in co-educational (mixed-sex) Colleges.

2.2 Design

The study adopted the cross-sectional survey design (Cohen, Manion & Morrison, 2011) because it sought to investigate the learning style preferences of students in public CoEs in the Central-Western Zone of Ghana, and whether these learning style preferences were based on sex, level of study, and college setting of the students. Frequencies with percentages, independent samples t-test, multiple regression and ANOVA were used to analyse the data.

2.3 Materials

A questionnaire designed by the researcher was used to collect data. The designed questionnaire which was made up of two sections, was pre-tested in one of the colleges in the Eastern-Greater Accra Zone, and the reliability coefficient obtained was 0.81, suggesting that the instrument was appropriate and reliable (Jones & Rattray, 2010).

2.4 Procedure

In each of the Colleges used for the study, questionnaires were distributed to the participants after obtaining permission from the Principal, and explaining to the participants the purpose of the study. Participants were encouraged to be honest in the responses they gave. Ethical considerations, including informed consent, anonymity, and right to withdraw from the study were followed. One week was given to the participants to fill and submit the questionnaire. After collecting the completed questionnaire, Principals, tutors and students were officially thanked for their co-operation and time in collecting the data.

3. Results and Discussions

3.1 Descriptive Statistics on Learning Style Preferences of Students

Research Question 1 was to investigate the learning style preferences of students in public CoEs in the Central-Western Zone of Ghana. In answering this question, descriptive statistics in the form of frequencies and simple percentages were utilised. The results of the learning style preferences of the students are presented in Table 2. From the data in Table 2, it is realised that students of public CoEs in the Central-Western Zone of Ghana preferred a combination of auditory, visual and kinaesthetic learning styles followed by a combination of auditory and visual; a combination of visual and kinaesthetic; visual; a combination of auditory and kinaesthetic; auditory; and kinaesthetic learning styles in that order. Hence, relatively more of the students preferred a combination of the three learning styles.

Table 2: Learning Style Preferences of Students in Public CoEs Central-Western Zone

Learning Style	Frequency (f)	Percentage (%)
Auditory	98	7.0
Visual	146	10.5
Kinesthetic	87	6.2
Auditory and Visual	228	16.3
Auditory and Kinesthetic	138	9.9
Visual and Kinesthetic	164	11.8
Auditory, Visual and Kinesthetic	535	38.3
Total	1396	100.0

Source: Survey Data, 2018

3.2 Inferential Statistics

Research Question 2 aimed at finding out the differences that exist in the learning style preferences of students in public CoEs in the Central-Western Zone of Ghana in terms of their demographic characteristics (sex, level of study, and setting of college). Research Question 2 aimed at finding out the differences that exist in the learning style preferences of students in public CoEs in the Central-Western Zone of Ghana in terms of their demographic characteristics (sex, level of study, and setting of college). The results of the t-test analyses done are shown in Tables 3, 4, and 5.

Table 3: T-test Results on Students' Sex and Learning Style Preferences in Public CoEs in Central-Western Zone

	Sex	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Learning Styles	Male	4.59	2.12	-4.651	1394	0.000
	Female	5.15	1.98			

Significance = 0.05

The independent samples t-test results in Table 3 indicate a statistically significant difference in the learning style preferences of male (M=4.59, SD=2.12) and female (M=5.15, SD=1.98) students of public CoEs [t (1394) = -4.651, p=0.000] at 0.05. Based on the interpretation of Eta Squared values as indicated by Pallant (2011), the Eta Squared value of 0.015 obtained implied that the statistically significant difference was small. Thus, the null hypothesis that there is no statistically significant difference between learning style preferences of male and female students in public CoEs in the Central-Western Zone of Ghana was rejected.

Table 4: *T-test Results on Students' Level of Study and Learning Style Preferences in Public CoEs in Central-Western Zone*

	Level	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Learning Styles	100	4.93	2.06	-1.291	1394	0.197
	200	5.07	2.00			

Significance = 0.05

The data in Table 4 show that there was no statistically significant difference in students' learning style preferences according to Level 100 (M=4.93, SD=2.06) and Level 200 (M=5.07, SD=2.00) [t (1394) = -1.291, p=0.197] at 0.05. As a result, I failed to reject the null hypothesis that there is no statistically significant difference between learning style preferences of Level 100 and Level 200 students of public CoEs in the Central-Western Zone of Ghana.

Table 5: *T-test Results on Setting of College and Learning Style*

	Nature of College	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Learning Styles	Single Sex	5.25	1.94	4.724	1394	0.000
	Mixed Sex	4.74	2.09			

Significance = 0.05

From the data in Table 5, a statistically significant difference is observed in the learning style preferences of students in single-sex public colleges (M=5.25, SD=1.94) and mixed-sex public colleges (M=4.74, SD=2.09), [t (1394) = 4.724, p=0.000] at 0.05. Based on the interpretation of Eta Squared values as indicated by Pallant (2011), the Eta Squared value of 0.016 obtained implied that the statistically significant difference was small. Hence, the null hypothesis that there is no statistically significant difference between learning style preferences of students in single-sex and mixed-sex public CoEs in the Central-Western Zone of Ghana was rejected.

Research Question 3 was to determine the influence of demographic variables (sex, level of study and setting of college) of students in public CoEs in the Central-Western Zone of Ghana on

their learning style preferences. The results from the inferential statistics are presented in Tables 6 and 7.

Table 6: Multiple Regression and ANOVA Results for Demographic Variables and Learning Style Preferences

Model		Sum of Squares	df	Mean Square	F	Sig
1	Regression	120.351	3	40.117	9.898	0.000
	Residual	5641.646	1392	4.053		
	Total	5761.997	1395			
R	0.145					
R Square	0.021					
Adjusted R Square	0.019					
Standard Error of the Estimate	2.013					

Significance = 0.05

The results of the multiple regression as shown in Table 6 reveal that the demographic variables of the students (sex, level of study, and setting of college) collectively accounted for 2.1% variance in their learning style preferences, and this was found to be statistically significant [$F(3, 1392) = 9.898, p = 0.000$] at 0.05. This means there was a positive influence of the demographic variables of students on their learning style preferences, even though the influence is small. Deductively, other factors not included in this study contributed 97.9% to the learning style preferences of the students.

The contribution of each of the demographic variables of the students to their learning style preferences was examined, and the results, as presented in Table 7.

Table 7: Standardized and Unstandardized Coefficients for Demographic Variables and Students Learning Style Preferences

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	4.664	0.447		10.441	0.000		
Setting of College	0.332	0.135	0.082	2.460	0.014	0.639	1.564
Level of Study	0.157	0.108	0.039	1.452	0.147	0.999	1.001
Sex	0.345	0.152	0.075	2.272	0.023	0.640	1.563

Significance = 0.05

From the results in Table 7, it is realised that the setting of the college ($\beta = 0.082, t = 2.460, p = 0.014$), and the sex of the students ($\beta = 0.075, t = 2.272, p = 0.023$), made

statistically significant unique contribution to the students' learning style preferences. However, students' level of study ($\beta = 0.039$, $t = 1.452$, $p = 0.147$) did not make any statistically significant unique contribution to their learning style preferences. It is seen from the results that even though sex and setting of college were statistically significant in contributing to the learning style preferences of the students, the setting of the college had a better contribution than sex.

4. Discussion of Results

The study found out that the students generally preferred a combination of auditory, visual and kinaesthetic learning styles. It is interesting to note from the results that the top three learning style preferences of the students had a combination of visual learning style with one or two other learning style(s). This, perhaps, substantiates the assertion that an estimated 65.0% of the population are visual learners (Abante, Almendral, Manansala, & Mañibo, 2014). There was statistically significant difference in between learning style preferences of male and female students. This supports the finding that a significant difference exist between the learning style preferences of male and female learners (Saadi, 2012; Lincoln & Rademacher, 2006). However, it has been concluded from findings of studies that learning styles do not significantly differ between male and female students (Lai & Lee, 2019; Singh, Govil, & Rani, 2015; Shenoy & Shenoy, 2013; El Tantawi, 2009; Baykan & Naçar, 2007).

The results showed that there was no statistically significant difference between learning style preferences of Level 100 and Level 200 students in public CoEs in the Zone. This disproves the argument that learning style preferences of students are influenced by their classification and course level (Obiefuna & Oruwari, 2015). However, a statistically significant difference between learning style preferences of students in single-sex and mixed-sex public CoEs was found. This seems to agree with the assertion that among other variables, educational settings influence students' learning style preferences (Obiefuna & Oruwari, 2015). The findings also showed that generally, there was a positive influence of the students' demographic variables on their learning style preferences, even though the influence was small. With the exception of the students' level of study which did not significantly influence their learning style preferences, sex of the students, and the setting of

college significantly influenced the students' learning style preferences, with the setting of college having a better influence than sex.

5. Limitation

There are limitations to this study. The first is that many mixed-sex colleges were used for the study as compared to single-sex school. In the Central-Western Zone of Ghana, there is only one single-sex College. Consequently, the number of female students (73.1%) used in for the study were more than that of the male students (26.9%). As a result, the generalisation of the findings may be limited. These notwithstanding, the findings of the study gave an insight on the learning style preferences of students in the public CoEs in the Central-Western Zone of Ghana, and has in one way or the other, contributed to knowledge and literature on students' learning style preferences.

6. Conclusions

It is concluded that generally, combinations of learning styles were preferred by the respondents. Thus, many of the students are likely to prefer a combination of the use of pictures diagrams, demonstrations, audio-visuals aids, variety of teaching and learning materials, lectures, role plays, whole class and group discussions, experiments, project works, among others to understand what is taught. This calls for multiple representation during instructional activities to enable students explore other learning styles to maximise learning. A student is likely not to use one particular learning style. It is, therefore, imperative for tutors of the Colleges to consider the various learning styles of their students during lectures. This will inform their choice of appropriate teaching methods, techniques and strategies to effectively achieve instructional objectives.

It is also concluded that the finding on the learning style preferences of the students helps in understanding differentiated learning among students. This will guide tutors in assessing students based on their differentiated learning. The VAK Learning Style Model could be considered as a practical way of incorporating different learning techniques into classroom instruction and activities, despite its heavy criticism as a fixed, biological or an outdated concept with no scientific basis. It could be concluded that, the more tutors know of their students and their learning style preferences in terms of their sex differences, and learning needs, the more successful they (students) may become in their studies.

7. Recommendations

In view of the findings and conclusions from the study, it is recommended that principals and tutors in public CoEs in the Central-Western Zone of Ghana should put in place measures to help students to identify their preferred learning styles of students right from the first year so that they could be made aware and understand the strengths and weaknesses in their preferred learning styles. This will encourage the students to adjust their learning style preferences and consequently, their study habits, to enhance effective learning and academic achievement. Again, tutors in public CoEs in the Central-Western Zone of Ghana should make use of teaching techniques and strategies that would suit the learning style preferences of male and female students either in single-sex or mixed-sex colleges. Furthermore, tutors and Guidance and Counselling Co-ordinators in public CoEs in the Central-Western Zone of Ghana should collaborate to educate students on issues relating to their (students') learning styles. Last but not least, further research could be conducted in public CoEs in the Central-Western Zone of Ghana to identify other relevant personal factors of students that could account for the differences in their learning style preferences.

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