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LEARNING STYLE PREFERENCES OF SENIOR SECONDARY SCHOOL ECONOMICS STUDENTS

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Abstract

Despite the increasing number of candidates offering economics in senior secondary schools and the importance of the subject to entrepreneurship education, performance of students in public examinations, such as the Senior School Certificate Examination (SSCE), in the subject has been low and oscillating between, below-average and average performance. The cause of this oscillating and sometimes poor learning outcome has been attributed to many factors; chief among them is the background characteristics of students- of which learning style is one. To the best of the knowledge of the researcher, few studies have been done in the area of learning style of senior secondary school economics students. This prompted the researchers to undertake this survey research- to investigate the dominant learning style of high school economics students; so as to assist teachers to put in place teaching methods/aids that accentuate teaching efficiency and better learning outcomes. The Kolb learning style inventory (KLSI) version 3.1(2005) was administered to a sample of 560 senior secondary 1, 2 and 3 students, from a population of senior secondary school students offering economics in Ogun state, Nigeria. The data obtained were subjected to descriptive statistics- frequency counts and percentages and chi-square tests. Findings of the study reveal an even distribution of the four selected learning styles, among the sample used for the study. However, Reflective learning style was the most prevalent style, (27%) followed by both Abstract learning style (25%) and Concrete learning style (25%), the Active learning style being the least, (23%). In addition, there was no significant association between class (X^2, 0.384 and P=0.999), gender (X^2, 0.220 and P=0.974) and subject area specialization (X^2, 1.243 and P=0.999) of students and learning styles. It is recommended that teachers of high school economics adopt multiple teaching methods/aids so as to meet the diverse learning styles of students.

Keywords: Learning Styles, High School Economics, Gender, Class, Subject Area Specialisation.

Introduction

Economics is a popular subject in Nigeria senior secondary schools. It is offered by nearly all students. This is not surprising, if one considers the importance of economics to our daily decision making activities- at the house-hold, the government and the industry levels. Akorede and Adekoya (2016), after examining entries in the WASCE (2005 – 2014) concluded that economics is the most

popular in the list of elective subjects in the senior secondary school curriculum. In addition, Okwilagwe and Oyedepo (2007), consider economics the most important among all subjects in the general business course. Adu and Galloway (2015) refer to economics as one of the core subjects in the high school curriculum. They concluded that all other social science related subjects are expressed, formulated and communicated through economics.

Despite the increasing number of candidates offering economics in senior secondary schools and the importance of the subject, performance of students in public examinations, such as the Senior School Certificate Examination (SSCE), has been low and oscillating between, below-average and average performance (Adu and Galloway (2015) Adekoya, (2018)).The cause of this oscillating and sometimes poor learning outcome has been attributed to many factors; chief among them is the background characteristics of students (Olopoenia, 2006; Olaoye,2005; Adu, Ojelabi & Adeyanju, 2009). Chief among these personal characteristics is the learning style of students.

Learning style is an aspect of the personal characteristics of students which, to the best of the knowledge of the researchers, has not been well researched in relation to senior secondary school economics in Nigeria. This is a great neglect, because teachers' knowledge of students learning style, will help teachers in designing learning in such a way that it takes cognizance of the learning style preferences of the students in his /her class. Knowledge of learning style of student will be of great use to councillors, parents, and curriculum planners, in designing learning and teaching plans, and in selecting students for subject area specialization and further education, and for placement

Learning style is the manner in which a learner perceives, interacts with, and responds to the learning environment. Kolb (1984) described learning style as an individual's preferred ways of processing and transforming knowledge. There are many learning style models, however the model used in this study is the Kolb (1984) model. The model comes with a learning cycle and a learning style inventory- the Kolb Learning Style Inventory (KLSI). According to Balogun (2014), KLSI has been the most widely documented test to assess learning style. Ibe (2015) also stressed that, the Kolb learning style Inventory is a universally accepted instrument, which has been proven to have a high degree of internal validity. The Kolb (1984) experiential learning theory (KELT) is a dynamic view of learning based on a learning cycle and recognition of differences in learning style of individuals. This study used the four learning style types- emphasizing the four learning modes of the Kolb learning cycle- Concrete, Reflective, Abstract and Active learning styles.

Very few studies have been carried out among high school economics students- the researchers found one done in Ghana by Aikins, Adu-Agyei, Ofori-Adade and Anka (2009), using the Dun and Dun learning style model (Visual, Auditory, Kinesthetic VAK). The study found the auditory learning style to be the most prevalent among majority of the economics students, with learning style having a significant influence on performance. Other studies have been carried out among high school students, using the KLSI, which prove the existence of a relationship between learning style and achievement. Ibe (2015), using the KLSI, found an even distribution of the four learning styles of Kolb being represented amongst the sample senior secondary school biology students. The study also revealed that students with converging style outperformed all other students, with no significant interaction effect of leaning style and gender on achievement in biology. In another related study, using the KLSI, Damavandi, Mahyuddin, Elias, Daud and Shabani (2011), found a significant difference between learning style and academic achievement.

There are other studies using other learning style instruments apart from the KLSI. Vaishnav (2013) revealed that learning style has a significant effect on academic achievement. According to the study, kinaesthetic learning style was found to be more prevalent than visual and auditory learning styles- and there exist positive high correction between Kinaesthetic learning style and academic achievement of student used in the sample. This is in line with the findings of Otunla and Babatunde (2014).In another related study, Uzuntiryaki (2007) found that there was statistically significant difference among students with different learning styles, with respect to chemistry achievement. The finding of this study is also confirmed by Abidin, Rezaee, Abdullah & Singh (2011). In the study; Abidin .et al. (2011),found a significant relationship between overall academic achievement and learning styles. The study also found that the high, moderate and low achievers have a similar preference pattern of learning in all learning styles and that the learning styles framework does not change with subjects-it actually plays an important role across all the subjects.

When it comes to associating learning style with gender, there seems to be no agreement among researchers as to the direction. While some studies (Sanni and Emeke,2014; Adesunloye, (2008) reported in Dalal, Sara and Al-Gahtani. 2014) reported a significant relationship between learning style and gender, others (Myers and Dyer (2006) reported in Balogun, 2014; Cavanagh et al. (1995) and Piane et al. (1996) both reported in Dalal et al., 2014) found no significant relationship between learning style and gender. In addition, in terms of class (year of study) and subject area specialisation, in relation to learning style, studies are inconclusive.

These show that students have distinct learning styles and the fact that a significant relationship exist between learning style and achievement, however, there seems to be no agreement as to the direction of the influence of gender, class of study and subject area specialisation on learning style. In addition, the only study reviewed that was conducted on economics students was done in Ghana, It used the VAK learning style instrument; it was done on a small sample (150) of economics students using simple percentages in analyzing data. Based on this, this present study investigated the learning style preferences of senior secondary school economics students in association with personal characteristics of students, such as, gender, class and subject area specialisation, using the KLSI, which has been highly recommended by researchers (Ibe,2015; Balogun, 2014) and inferential statistics such as chi-squire statistics. It was against this background that this study examine the dominant learning style of high school economics students; so as to assist teachers to put in place teaching methods/aids that accentuate teaching efficiency and better learning outcomes.

Statement of the Problem

Students' general oscillating and sometimes poor performance in senior secondary school economics, has been attributed to many factors; chief among them is the background characteristics of students. Learning style is an important aspect of the background characteristics of students. It thus forms the main focus of this study. In addition, to the best of the knowledge of the researchers, much of the assertion on learning style, especially in relation to gender, class of study and subject area specialisation, has not been tested more rigorously at the senior secondary school economics class rooms, in Nigeria.

Research Questions

Based on the stated problem, this study provided answers to the following research questions;

(i) What is the preferred learning style amongst senior secondary school economics students?

(ii) Is there any significant association between learning style of students and class of study?

(iii) Is there any significant association between learning style of students and gender?
(iv) Is there any significant association between learning style of students and subject area specialisation?

Methodology

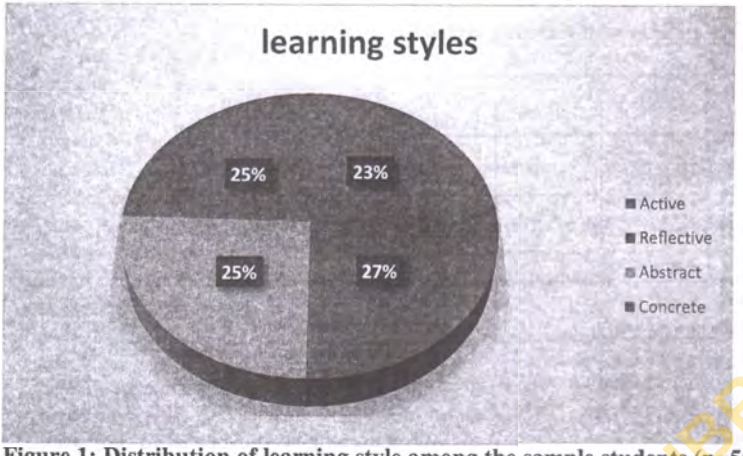
This study used an expost facto survey design and the data collected were described in a systematic way without manipulating the variables. The population for the study consists of all senior secondary school students offering economics in Ogun State, Nigeria. Simple random sampling was used to select one out of the four SSCE, WAEC/NECO marking centres, in Ogun state (the WASSCE is usually marked May/June of every year, when students are still in school). At the selected marking centre, only examiners who were teaching economics in their various schools were used as research assistants, to administer the questionnaire to their students. The details, ofhow the questionnaire should be filled was explained, each teacher, after completing a copy of the questionnaire, was asked to administer the same to his /her students. In all, 720 copies of the 1000 sent out were returned. Of the 720, only 560 were completed according to instruction, and thus useful for the purpose of the survey. The demographic profile of the sample in terms of gender; were- male 239(42.7%), female 321(57.3%), class; SSS.1. 233(41.6%), SSS.2. 198(35.4%), SSS.3. 129(23.0%), and subject area specialisation; science 168(30%), commercial 260(46.4%), arts 130(23.2%), technical 2(0.4%).

The instrument for the study is the Kolb learning style inventory (KLSI) version 3.1(2005). This is a nine-point questionnaire having four statements for each prompt, which student ranked as it relates to them. While they assign four to the statement nearest to them three to the second, two to the third and one for the statement least appropriate to them. The researches adopted this version of the KLSI because it is ease to fill by secondary school age students. They can easily understand each statement as it is stated in the questionnaire and can thus quickly rate it as it relates to them. The Questionnaire is divided into two sections; while section A, deals with demographic information such as students' class, gender and subject area specialization, section B, contains the main body of the questionnaire where students were asked to rate themselves based on the four statements in each roll. The Cronbach's alpha coefficient of the instrument is 0.77.

Results

RQ.1: What is the preferred learning style among senior secondary school economics students?

Figure 1, presents the distribution of learning style among the sample students- it revealed that the most common learning style is the reflective learning style (27%), followed by both the abstract and concrete learning styles (25%) respectively. The least common learning style is the active learning style (23%).



Active = 23%
Reflective = 27%
Abstract = 25%
Concrete = 25%

Figure 1: Distribution of learning style among the sample students (n=560)

RQ.2: Is there any significant association between learning style of students and class of study?

Table 1 reveals that there is no association between class and learning styles ($\chi^2_{.0.384}$ and p=0.999) is greater than 0.05 level of significance. The p value of 0.999 is larger than the alpha value of 0.05. This means that SSS1, 2 and 3 economics students are not significantly different in their learning style.

Table1: Chi square for class and learning styles

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.384[a]	6	.999
Likelihood Ratio	.384	6	.999
Linear-by-Linear Association	.040	1	.842
N of Valid Cases	20160		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1080.61.			

RQ.3: Is there any significant association between learning style of students and gender?

Table 2 reveals that there was no association between gender and learning styles ($\chi^2_{.0.220}$ and p=0.974) is greater than 0.05 level of significance. The p value of 0.974 is larger than the alpha value of 0.05. Learning styles appears to be evenly distributed among both males and females.

Table 2: Chi –square for gender and learning styles

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.220[a]	3	.974
Likelihood Ratio	.220	3	.974
Linear-by-Linear Association	.061	1	.805
N of Valid Cases	20160		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 2002.05.			

RQ. 4: Is there any significant association between learning style of students and subject area specialisation?

Table3 reveal that no association exist between subject area specialisation and learning styles, (χ^2,1.243 and p=0.999) is greater than 0.05 level of significance. The p value of 0.999 is larger than the alpha value of 0.05. Learning styles appears to be evenly distributed among science, arts, commercial and technical students.

Table 3: Chi square for subject area specialisation and learning styles

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.243[a]	9	.999
Likelihood Ratio	1.247	9	.999
Linear-by-Linear Association	.034	1	.853
N of Valid Cases	20160		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.75.			

Discussion

The findings of the study reveal that the reflective learning style is the prevalent learning style (27%). This is in line with the findings of Otunla and Babatunde (2014) who found that the reflective learning style is the prevalent learning style in their study. Learners with a Reflecting style emphasize reflection (RO) while balancing feeling (CE) and thinking (AC). They thrive in learning environments rich in discussions, interactions, and through readings that provide them with a deeper understanding of themselves and the world around them. The abstract and concrete learning styles come next accounting for 25% each. Learners with an Abstract style emphasise thinking (AC) while balancing reflecting (RO) and acting (AE). They learn best in a well-structured learning environment in which they can design or conduct scientific experiments, or manipulate data. While learners with concrete style emphasise feeling (CE) while balancing acting (AE) and reflecting (RO). They love hands on activities but also learn by carefully observing the world around them. In formal learning situations, working in groups, role-playing, brainstorming or fieldwork may appeal to them. The active learning style accounted for 23% coming last. Learners with an *Acting* style emphasize acting (AE) while balancing feeling (CE) and

thinking (AC). In formal learning situations, they learn best through real-life projects, field trips, and hands-on experiments.

The spread of the learning style, as revealed by the sample, shows a more or less even spread, this is in line with the study by Ibe (2015), which found an even distribution of the four learning styles of Kolb being represented amongst the sample senior secondary school biology students. This was also the outcome of studies by Eyyam et al. (2011) andAbidin et al. (2011).However findings of studies by Balogun(2014) and Aikins et al. (2009) shows a significantly different pattern in the learning style of students.

In the area of class and learning styles of the sample, as revealed by Fig. 4 and Table 2; no significant group differences exist between the class of respondents and their learning styles. Findings of a study by Dalal et al. (2014) in relation to students' clinical experience and learning styles, this result obtained differ from that of this study. The study showed a highly significant group differences between learning styles and clinical experience of the sample of Dental students in the study.

In this study there was no association between gender and learning style of senior secondary school economics students. This is in line with the study by Myers and Dyer (2006) reported by Balogun (2014) that no significant differences exist in the learning style of male and female enrolled in an agricultural leadership development course at the University of Florida. However, this differs from the study by Adesunloye et al reported by Dalal et al 2014 that Kolb LSI is sensitive to gender. The Kolb LSI version 3.1. (2005) showed that men prefer abstract conceptualization (AC) compare to their female colleague while studies by Cavanagh et al (1995) and Pianeet al (1996) reported by Dalal et al 2014, found no gender related differences in learning style.

This study shows that no significant association exist between learning styles and subject area specialisation. This is supported by Dalal et al 2014, which found no significant association between learning styles and Dental students' area of specialisation. This was also the conclusion of a study by Eyyam et al. (2011).However, this not in line with the assertion by Kolb (1981) that, different fields of study are prone to different learning styles.

Conclusion

This study investigated the learning style preferences of senior secondary school economics students, and found the reflective learning style being slightly prevalent, despite the nearly even spread of the Kolb learning style among the students. In addition, it found that differences in class, gender and subject area specialisation did not influence learning style.

Recommendations

Based on the findings of this study, it is recommended that;

1. High school teachers use multiple teaching methods/aids so as to meet the diverse learning styles of students in their economics classrooms.
2. The four learning/teaching style of Kolb based, on the Kolb learning cycle should be incorporated into the teaching of economics by teachers.
3. Class, gender and subject area specialisation, should not be criteria for determining learning style.

References

Abidin, M. J. Z., Razaee, A. A., Abdullah, H. N., Singh, K. K.B.(2011) Learning Style and Academic Achievement among Arts & Science Streams Students.*International Journal of Academic Research in progressive Education & Development. 2, 2 (2013)*

Adekoya, P. A. (2018)Effects Of Experiential Teaching Methods on Senior Secondary School Students' Learning Outcome in Economics in Ogun State, Nigeria. A PhD pre-fieldseminar, presented to the

Institute of Education, University of Ibadan

Adu, E.O., Ojelabi, S. A and Adeyanju, H. 2009 Quantitative Ability as Correlates of studentsAcademic Achievement on Secondary School Economics in Oyo State, Nigeria,in *African International Multi-Disciplinary Journal, Ethiopia* vol. 3 (2)

Adu, E. O. and Galloway, G. 2015. The effects of coopereative learning on students' economics achievement and attitude towards economics. Jounal of Economics, 6(1); 30-36

Aikins, M. V., Adu-Agyei, K., Ofori-Adade, B. and Anka, W. (2009). The learning style of economics students in some selected senior high school, in the Cape Coast Metropolis. www.academia.edu/24928967/.

Akorede, S. F. and Adekoya, P. A. 2016. Senior Secondary School Students Reasons for offering Economics. Paper presented at the 4th Institute of Education, University of Ibadan, International Conference.

Balogun, T.R. 2014, Effects of cooperative and problem-solving learning strategies on Senior Secondary School Students, Achievement in Financial Accounting in Ibadan, Oyo State. M.Ed. Project Report *Institute of Education University of Ibadan.*

Dalal, A., Sara, M. and Al-Gahtani, B.D.S. 2014. Assessing learning styles of Saudi dental students using Kolb's Learning Style Inventory. *Journal of Dental Education.* Vol. 78(6): 927-933.Damavandi, A. J., Mahyuddin, R. , Elias, H. , Daud, S. M. , and Shabani, J. 2011. Academic achievement of students with different learning styles. International Journal of Psychological Studies. Vol.3,no.2. 186-192.

Damavandi, A. J., Mahyuddin, R, Elias, H., Daud, S. M., and Shabani, J. 2011. Academic Achievement of Students with Different Learning Styles. International Journal of Psychological Studies. Vol. 3, No. 2. P. 186.

Eyyam, R., Menevis, I. and Dogruer, N. 2011. An Investigation of the Learning Styles of Prospective Educators. *The Online Journal of New Horizons in Education.* July 2011, vol. 1, issue 3. TOJNED www.tojned.net.

Ibe, H. N. 2015. Effects of learning styles on the performance of senior secondary school biology students. *An International Multidisciplinary Journal, Ethiopia vol. 9(1) no.36. 214-227*

Kolb, D.A. 1981. Learning Style and Disciplinary Differences, in A.W. Chickens (ed) The Modern American College, San Francisco Jossey-Bass. Retrieved on line. www.wikipedia.com.experiential learning. Learning style and disciplinary Differences.

Kolb, D.A. 1984.Experiential Learning: Experience as the source of learning and development. Prentice Hall Inc. Eaglewood Cliffs. New Jersey 07639

Kolb, A.Y. and Kolb, D.A. 2005.The Kolb Learning Style Inventory Version 3.1. Technical Specification Haygroup, Experience Based learning System

Okwilagwe, E.A. & Oyedepo, J.A. 2007. Teachers' Perception of the Quantitative Aspects of Senior Secondary School Economics syllabus. *West African Journal of Education.* XXVII 112-123.

Olaoye, J.A. 2005 Teacher characteristics and student attitudes as determinant of student performance in economics of the senior secondary school in Ibadan. Unpublished Ph.D Thesis submitted to the International Centre for Educational Evaluation ICEE, University of Ibadan, Ibadan Nigeria.

Olopoenia, S. F.2006 ,Influence of comprehension in English Language.

Age, Home, and School Environment on Students' achievement in Secondary School Economics in Ibadan. Unpublished Ph.D Thesis submitted to the *International Centre for Educational Evaluation ICEE, University of Ibadan, Ibadan Nigeria*

Otunla, A. O. and Babatunde, E. O.2014. Investigating 21st century creativity skills through learning style prevalence among secondary school students in Ibadan, South-West, Nigeria. *West African Journal of Education, Vol. xxxiv. 74-86*

Sanni, T. K. and Emeke, E. A. 2014. Relationships among learning style preferences, gender, age, and students' achievement in senior secondary school biology.*West African Journal of Education, Vol. xxxiv. 273-283*

Uzuntugarki, R 2007 learning styles and High School students Chemistry Achievement. www.icaseonline.net/sei/march2007//pdf.

Vaishnav, R. 2013 learning style and Academic Achievement of Secondary School Students. Vace of Research, 1, 4, (2013) www.voiceofresearch.org/doc/.march20131.pdf retrieved April 23, 2014.