GENDER DIFFERENCE IN THE USE OF THE KNOW-WANT-LEARN (KWL) AND JIGSAW COOPERATIVE LEARNING STRATEGIES ON STUDENTS' PERFORMANCE IN SOCIAL STUDIES

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ABSTRACT: *The study investigated gender differences among Junior Secondary Schools students' taught Social Studies concepts using Know-Want-Learn (KWL) and Jigsaw Cooperative Learning (JCL) strategies in Port Harcourt Local Government Area of Rivers State. Two research questions and two corresponding hypotheses guided the study. The study adopted the quasi-experimental pre-test post-test control group design. The study involved three groups. Two experimental groups (Know-Want-Learn (KWL) differentiation learning strategy and Jigsaw Cooperative Learning (JCL) strategy) and a control group taught with traditional learning strategy. The sample consisted of 177 (90 male students and 87 female students) Junior Secondary School II (JSS II) students drawn from three Government Co-educational Secondary Schools. A 25 multiple choice test items, title "Social Studies Achievement Test (SOSAT)" developed by the researchers which covers two topics: Meaning and Consequences of Drug Abuse and Harmful Substances, and Dangers of Drug Trafficking in the Junior Secondary School II Social Studies Curriculum Scheme of Work was the research instrument. The instrument was validated and had reliability coefficient of 0.84 via Kuder-Richardson (KR-21) for a measure of its internal consistency. The relevant data gathered were analyzed with mean, standard deviation, graphical plot associated with Analysis of Co-variance (ANCOVA). The findings of the study showed that the effect of Know-Want-Learn (KWL) and Jigsaw Cooperative Learning (JCL) strategies on the performance of students is not gender dependent. Hence, it was recommended among others that teacher should adopt the teaching strategies in teaching Social Studies in Schools. Also, training workshops should be organized and sustained for Social Studies teachers across the country, exposing them to innovative strategies that encourage active learning and teaching for the 21st century learner and teacher.*

KEYWORDS: Gender, Know-Want-Learn (KWL), Jigsaw Cooperative Learning (JCL), Social Studies, Port Harcourt LGA

INTRODUCTION

The typical classroom, especially in a co-educational school is usually composed of human beings that have either feminine or masculine attributes both biologically and socially. Biologically the attribute is called sex of the human beings while socially it is called gender. For this study the

social attribute of human beings termed gender would be used.Gender is a socially ascribed attribute which differentiates feminine from masculine (Imoko, 2004). For Nworgu (2004), the word gender is used to describe certain characteristics of men and women which are culturally and socially determined while those that are biologically determined are regarded as sex.

Some researchers have reported the prevalence of significant gender difference in performance of students in various school subjects and all in the favour of males (Okwo and Otubah, 2007; LongJohn, 2009; Onwukwe, 2009). This has been attributed to factors which include the instructional strategies adopted, economic, cultural, social, political and religious beliefs. Others include, family's preference of boys' education, lack of sustained government policies, early marriages et cetera. According to Onwukwe (2009), women education was not conceived of as a process aimed at producing accountants, engineers, doctors, administrators or any of these prestigious professions for nation building, but cooks, housewives and mothers. In confirmation of this view, Isa (2005) reported that women were educated to accept their roles as mothers and wives. To this end, they were taught how to perform the traditional roles of house wives and mothers. The emphasis of women education was on domestic science involving the preparation of meals, provision of care for the husband and preparation towards motherhood. Unfortunately in traditional African society, women are expected to play the second fiddle and to take low status jobs. Women traditionally have been debased and dishonoured by the fact that they are supposed to consider motherhood as the principal purpose of their existence.

Meanwhile, Nworgu (2005) stated that everyone can study any subject, hence advocated the need for teachers to understand the importance of using gender equitable instructional strategies in classrooms. In view of this assiduous relationship between gender and performance, this study was under taken to determine whether gender differences exist when innovative instructional strategies such as Know-Want-Learn (KWL) and Jigsaw Cooperative Learning (JCL) strategies is used to teaching Social Studies in our schools

The introduction of Social Studies into the Nigerian educational system is aimed at inculcating positive values, morals, character training, and good citizenship into the Nigerian child but it has been observed that teaching this subject to achieve these content objectives has been a problem due to the use of conventional teaching methods by Social Studies teachers. Thus, the question is would KWL and JCL do the job effectively? Nonetheless a brief explanation of the two instructional strategies of interest in this work will suffice at this juncture.

Know-Want-Learn (KWL) is a form of differentiation learning strategy wherein teachers accommodate the differences between learners so that every learner in a group has the best possible chance of learning (Training and Development Agency for Schools, 2010). It asks students to think of what they already know about the topic of a lesson, ask questions about it, and find answers to those questions. The Know-Want-Learn (KWL) learning strategy is a good example of a learning strategy allows students to recall previous information regarding the upcoming topic. The purpose of Know-Want-Learn (KWL) strategy is for students to categorize information about the topic that is presented by the teacher. It is usually used at the beginning of an instruction to discover what students already know, and what they want to know about the subject. This allows the teacher to

2

ensure students are learning what they want to learn. It makes learning more enjoyable for the learner, and will hopefully result in better academic performance.

On the other hand, Jigsaw a cooperative learning strategy according to Shume, Stander, and Sutton-Grier (2017)is an effective way to increase students' engagement through group work that facilitates peer-to-peer learning. It can be used when students are reading a text, listening to a presentation, or carrying out a group investigation. The Jigsaw helps students study all of the content material. They become "experts" as they teach each other parts of the material. Each student thus plays an active role in teaching and learning and experiences deep understanding and higher order thinking. It gives room for interaction between the members of a group which is a good attribute in cooperating together.

Studies have been conducted to determine the effectiveness of Know-Want-Learn (KWL) and Jigsaw Cooperative Learning (JCL) strategies in different subject areas and at different levels and they have all shown positive results. Some of such studies include those of Alsoudi (2017); Taheri and Mohamadi (2015); Aliakbari and Haghighi (2014); Utami, Bindarti, and Suharjito (2014); Gull and Shehzad (2015); Brown (2014); Mbacho and Changeiywo (2013); and Kolawole (2008) et cetera. Thus the specific problem of this study was to determine whether gender differences exist when students are taught Social Studies concepts with Know-Want-Learn (KWL) and Jigsaw Cooperative Learning (JCL) strategies at the Junior Secondary School (JSS) level in Port Harcourt Local Government Area of Rivers State. To this end the following research questions which were transformed into null hypotheses guided the study.

Research Questions
1.   What is the mean difference in the performance between the male and female students taught with Know-Want-Learn (KWL) learning strategy in Social Studies?
2.   What is the mean difference in the performance between the male and female students taught with Jigsaw Cooperative Learning (JCL) strategy in Social Studies?

Hypotheses
1.   There is no significant difference in the mean difference between the male and the female students taught with Know-Want-Learn (KWL) learning strategy in Social Studies.
2.   There is no significant difference in the mean difference between the male and the female students taught with Jigsaw learning strategy in Social Studies.

METHODOLOGY

The study adopted the quasi-experimental pre-test post-test control group design. It is a non-equivalent, control group design that requires non-random assignment of participants into groups. The study involved three groups. Two experimental groups (Know-Want-Learn (KWL) differentiation learning strategy and Jigsaw Cooperative Learning (JCL) strategy) and a control group taught with traditional learning strategy. The population of the study comprised 5,241 JSSII Social Studies students in the 15 Junior Secondary Schools in Port Harcourt Local Government Area, Rivers State. The simple random sampling technique was adopted for the selection of schools and classes in this study. The sample consisted of 177 (90 male students and 87 female

students) in Junior Secondary School II (JSS II), drawn from three Government Co-educational Secondary Schools in Port Harcourt Local Government Area. The sample consisted of 177 (90 male students and 87 female students) Junior Secondary School II (JSS II) students drawn from three Government Co-educational Secondary Schools in Port Harcourt Local Government Area. The experimental groups consisted of 64 students (31 males & 33 females) and 46 students (21 males & 25 females) respectively while the control group comprised 67 students (38 males & 29 females).

A 25 multiple choice test items, title "Social Studies Achievement Test (SOSAT)" developed by the researchers which covers two topics: Meaning and Consequences of Drug Abuse and Harmful Substances, and Dangers of Drug Trafficking in the Junior Secondary School II Social Studies Curriculum Scheme of Work was the research instrument. The instrument was validated and had reliability coefficient of 0.84 via Kuder-Richardson (KR-21) for a measure of its internal consistency.

Experimental group 1 was taught using Know-Want-Learn differentiation learning strategy, experimental group 2 was taught using the Jigsaw Cooperative Learning strategy while the control group was taught using the traditional lecture strategy. However, before teaching and learning took place a pre-test was administered on the three groups, thereafter, the two topics were taught to the three groups for three weeks with two periods for each instructional strategy per week making a total of eighteen periods, after which the students received the post-test. The post-test instrument contained the same items as in the pre-test but in a re-arranged form. The researchers did the teaching and administered the post-test and pre-test with the assistance of the regular classroom teachers. The relevant data gathered were analyzed with mean, standard deviation, and Analysis of Co-variance (ANCOVA).

RESULTS

Research Questions 1: What is the mean difference in the performance between the male and female students taught with Know-Want-Learn (KWL) learning strategy in Social Studies?
Hypothesis 1: There is no significant difference in the mean difference between the male and the female students taught with Know-Want-Learn (KWL) learning strategy in Social Studies.
To answer this research question and test its corresponding hypothesis, data gathered from the students in the KWL group on their pre-test and post-test scores were subjected to descriptive statistics of mean and standard deviation and inferential statistic of ANCOVA and the result presented in Table 1.

Table 1: Summary of Analysis of Covariance (ANCOVA) of mean scores of male and female students taught with KWL

	Sex	N	Pretest Mean	SD	Post-test Mean	SD	Difference In Mean	SD
	Male	31	65.68	18.53	70.97	12.52	5.29	12.37
	Female	33	58.67	16.78	70.06	13.93	11.39	12.29

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Decision
Corrected Model	5614.736	2	2807.368	32.231	.000	
Intercept	6353.245	1	6353.245	72.940	.000	
PRETEST	5601.582	1	5601.582	64.310	.000	
GENDER	126.411	1	126.411	1.451	.233	Accept HO_1
Error	5313.264	61	87.103			
Total	329024.000	64				
Corrected Total	10928.000	63				

$F_{(1, 61)} = 1.451$; p (.233) > 0.05 level of Significance, i.e. Not Significant.

Table 1 showed that the mean of the male students taught using KWL was 65.68, SD = 18.53, their post-test mean score was 70.97, SD = 12.52 whereas their mean difference was 5.29. Their female counterpart had pre-test mean score of 58.67, SD = 16.78 and their post-test mean score was 70.06, SD = 13.93 and the mean difference was 11.39. This indicated that female students did better than their male counterpart in the same group. However, the calculated F ratio was not statistically significant hence, the null hypothesis was accepted. The result was that there is no significant difference in the mean difference between the male and the female students taught with Know-Want-Learn (KWL) learning strategy in Social Studies.

Research Question 2: What is the mean difference in the performance between the male and female students taught with Jigsaw Cooperative Learning (JCL) strategy in Social Studies?

Hypothesis 2: There is no significant difference in the mean difference between the male and the female students taught with Jigsaw learning strategy in Social Studies.To answer this research question and test its corresponding hypothesis, data gathered from the students in the JCL group on their pre-test and post-test scores were subjected to descriptive statistics of mean and standard deviation and inferential statistic of ANCOVA and the result presented in Table 2.

Table 2: Summary of Analysis of Covariance (ANCOVA) of mean scores of male and female students taught with JCL

| Sex | N | Pretest | | Post-test | | Difference in | |
		Mean	SD	Mean	SD	Mean	SD
Male	21	47.62	22.77	61.90	18.14	14.29	18.40
Female	25	48.64	20.84	60.80	18.37	12.16	23.73

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Decision
Corrected Model	2782.720	2	1391.360	5.025	.011	
Intercept	14378.470	1	14378.470	51.925	.000	
PRETEST	2768.790	1	2768.790	9.999	.003	
GENDER	24.896	1	24.896	.090	.766	Accept HO_2
Error	11907.019	43	276.907			
Total	187568.000	46				
Corrected Total	14689.739	45				

$F_{(1, 43)} = 0.090$; p (.766) > 0.05 level of Significance, i.e. Not Significant.

Table 2 showed that the mean of the male students taught using JCL was 47.62, SD = 22.77, their post-test mean score was 61.90, SD = 18.14 whereas their mean difference was 14.29. Their female counterparts had pretest mean score of 48.64, SD = 20.84 and their post-test mean score was 60.80, SD = 18.37 and the mean difference was 12.16. Based on the mean differences male students did better than their female counterpart. On further statistical analysis via ANCOVA, the calculated F ratio was found to be not significant hence the null hypothesis was accepted. The result was that there is no significant difference in the mean difference between the male and the female students taught with Jigsaw Cooperative Learning (JCL) strategy in Social Studies.

DISCUSSION

The first issue investigated in this study was on difference in performance between male and female students' when taught using Know-Want-Learn (KWL) strategy. It was found out that, female students taught using KWL strategy scored higher in the post-test than their male counterparts in Social Studies. However, there was no significant difference in the performance between the male and the female students taught with Know-Want-Learn (KWL) strategy in Social Studies. The finding is in agreement with an earlier finding by Hana, Warsono and Faridi (2015) who carried out an experimental research with a factorial design which aimed to find out the effectiveness of Generating interactions between schemata and text (GIST) and Know-Want-Learn (KWL) strategies to improve reading achievement of male and female students. The result of the study showed that GIST and KWL strategies are effective in improve reading achievement of male and female students. In addition, there was no significant difference between gender in using GIST and KWL strategies to improve reading achievement.

The second issue was on gender difference when students' are taught using Jigsaw Cooperative Learning (JCL) strategy. The result showed that male students scored higher than their female counterparts in

Social Studies when taught using JCL strategy. Nevertheless, there was no significant difference in the mean performance scores between the male and the female students taught with Jigsaw Cooperative Learning strategy in Social Studies. The present finding is in tandem with an earlier finding by Sani (2015) who studied the effects of cooperative learning as an instructional strategy on SS II students in Qualitative Chemistry in Kebbi State. The result showed that students in the cooperative learning group performed better than those in traditional learning group and there was no significant difference in the performance between male and female students in the cooperative learning group. Others with similar finding include those of Adeoye (2010) and Kolawole (2008).

CONCLUSION AND RECOMMENDATIONS

The following conclusion was drawn from the findings of this study. The effect of Know-Want-Learn (KWL) and Jigsaw Cooperative Learning (JCL) strategies on the performance of students is not gender dependent. Therefore, the following recommendations are made:

1. Know-Want-Learn (KWL) and Jigsaw Cooperative Learning (JCL) should be used to teach Social Studies in secondary schools irrespective of the gender of students in the classroom.

2. Teacher training workshops should be organized and sustained for Social Studies teachers across the country, exposing them to innovative strategies that encourage active learning and teaching for the 21st century learner and teacher.

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