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TEACHER'S POSITIVE FEELINGS/BEHAVIOUR: BRIDGING THE GENDER INEQUALITY IN NIGERIAN PUBLIC SECONDARY SCHOOLS SCIENCE PERFORMANCE

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Abstract

Getting students' both male and female's attention is a way to engage them in learning activities and this poses a challenge to teachers. Hence, this study investigated how to create equality between male and female students in the study of science. The researcher tested the use of teacher's positive feelings and behaviour in the performance of male and female students. A total of one hundred and ten (110) SSI sciences (50, males and 60 females) in ten SSI schools in Ika South Local Government Area of Delta State were used for the study. The quasi-experimental design involving pre-test, -post-test control group experimental design was used t-test was used to analyse the posttest achievement scores of male and female students that were taught by teachers with positive feelings and behaviours and these were not significantly different ($t=0.60$; $df=108$; $P<.05$). As a result of this, recommendations were made that there should be improvement in science teachers' feelings and behaviour to students. This is to bring about equal performance of boys and girls in science subjects.

Introduction

Gender refers to the social construct that differentiates the roles, responsibilities, accompanying beliefs, norms, customs, and practices that define what are "masculine" and "feminine" attributes and behaviours (WHO,2003). The influence, of gender on students' performance has for a long time been a concern to many educational researchers. But surprisingly, no consistent result has been obtained.

Nigerian's education policies are linked with Education for All (EFA) goals, and a national plan of action for this goal has been developed. However, gender parity has not yet been achieved in the nation's secondary schools. Policy efforts promoting gender equality have focused on facilitating girls' school access, retention and completion. These include the free public primary and secondary education through the Universal Basic Education (UBE) programme. It is worthy to note have that gender equality in education refers not only to access and progress, but to safe supportive and inclusive learning environments. This includes equality in education structure (eg teaching, personnel and management) and content (eg curriculum and teaching approaches) (Global campaign for

Education, 2011; UNESCO,2012a). Examining gender equality in education involves examining the ways in which socially defined female and male roles and responsibilities are reflected in classrooms, schools and educational communities (UNESCO, 2009) and the ways in which these roles and responsibilities affect opportunities and interactions for students, teachers and administrators. Gender equality is about addressing unequal power relation; hence gender is not just a description of girls or boys but signals particular structures of exclusion, discrimination, or subordination.

Gender inequalities amongst teachers and education managers affect education quality, influencing teaching and learning approaches as well as teacher motivation and performance. Inequalities are linked to girls and boy's representation and responsibilities in teaching and management approaches, and interactions between teachers and students or between teachers and managers. However, the influence of gender on students' achievement in education has for a long time been a concern to many researchers. Many sought to determine whether it is true that there is male superiority in education achievement or not. Results obtained varied as many believed that female subjects were significantly better than their male counterparts. Some reported that gender had no effect on student's achievement. Hence, these groups of people believe that there is no gender difference in achievement and attitude in education. However, researchers like Aremu (1999) asserted that there is male superiority in achievement of educational programmes.

From the views of Wood (1977) as reported by Adesoji (2005), females have conformist attitude which makes it difficult for them to deviate from laid down rules and procedures. On the other hand, males display independence, aggression and activity. They are therefore more creative and develop into better achievers in courses than their female counterparts.

For the gender inequality to be bridged from this perspective, it is imperative to create a conducive atmosphere characterized by freedom of speech and expression. This is a feasible solution because it allows classroom interaction and participation irrespective of gender. This could also allow the child to develop a positive self-concept irrespective of gender and this will enable the females to break out of the traditional stereotypes. Another way of bridging this gap is the issue of societal attitude and expectations. In respect of this, Sumpter (2013) suggested that a way out includes carefully creating of consistent awareness programmes to make the society realize that females could do much more than being mothers and cooks.

Researches also revealed that teachers are the cause of this inequality as their consistent use of traditional instructional method places males to be more superior than their female counterparts. The implication of this as noted by MINESEC

(2011) is that educators should modify existing educational practices so that neither group is disadvantaged. This is to give room or help females perform as good as their male counterparts. Learning institutions play an important part in Teaching modeling and reinforcing gender roles. The environment within a learning institution is an important factor in the development, sanctioning and reinforcement of gender roles and identities. The opportunities given to learners the way learners treat one another, and how educators treat learners and their colleagues are all element of learning environment all of which are influenced by the prevailing gender roles in the society. Reinforcement of unequal gender roles and disrespect for girls and women experienced constantly over time in learning institutions can lead to dominance of males over females. This can lead to men taking advantage of the power differences between men and women and result in gender-based physical, sexual and verbal violence (Pulizzi and Resenblum 2007)

The strategies could be teachers changing their feelings and ways of disseminating information during their classroom interactions. In short, teachers both male and female should be those that can identify and proffer solutions to problems arising from gender discriminations. Getting pupils both male and female's attention at the beginning of the lesson is vital as both need to be physically, emotionally and mentally ready before engaging in the lesson (Lim, 2005). Many strategies can be used for promoting learning behaviour and the most common strategies are communication approach behaviour modification models and whole school approach. Communication approach sees that interpersonal relationships are the core element for promoting learning as pupils feel happy to communicate with others. Behaviour modification model focuses on intervention programmes while whole schools approach posits that teacher's satisfaction and pupils' happiness solve most behavioural problems in school (Rogers 2007).

Statement of the Problem

This study sought to find out if teachers' feelings and behaviour could bridge the inequality between male and female science students' performance in Nigerian's public secondary schools. It also investigates if there would be any difference in the performance of male and female students after being taught by improved teachers' feelings and behaviour and conventional teaching behaviour

Hypotheses

- HO₁: There is no significant difference in performance of students taught by teachers with positive feelings and behaviour and those taught by teachers with conventional teaching behaviours.
- HO₂: There is no significant difference in the performance of male and female pupils taught with conventional teaching behaviour.

Ho₃: There is no significant difference in the performance of male and female pupils taught with improved teachers' feelings and behaviour.

Research Design

The quasi-experimental design was used for this study. The nonrandomized control group, pre-test, post-test design was used. Two groups of the experimental and control group were employed. The experimental group was taught by teachers with (positive) feelings and behaviour and the control group by teachers using conventional teaching methods. The two groups were given the same task. The design is represented below:

Grouping	Pre-test	Research condition	Post-test
Exp. Gr. 1	O ₁	X ₁	O ₂
Control Gr. 2	O ₃	X ₂	O ₄

Where

O₁ and O₃ represents Pre-tests

O₂ and O₄ represents Post-tests

X₁ represents improved teachers feeling/behaviour

X₂ represents conventional teaching behaviour

Population and Sampling Procedure

The target population for this study was students of SSI in Agbor in Ika South Local Government Area of Delta State. A total of ten secondary schools were selected. These schools were made up of boys and girls. Six school teachers of science were trained towards having positive feelings and behaviour by providing for them all the necessary materials and adequate incentives while four schools tended towards conventional teaching behaviour. Simple random sampling was used to select two out of the six schools whose teachers' feelings and behaviours were improved and these constituted the experimental schools. In the same way, two of the remaining four schools were selected to represent schools with teachers of conventional teaching behaviour. These were the control group. In each of the four schools selected, an arm of SSI science class was picked to participate in the study. In all, a total of two hundred and ten (210) students comprising of 110 males and 100 females of public secondary schools took part in the study. 110 students (50 males and 60 females) were in the experimental group and 100 Students (40 males and 60 females) were in the control group.

Instrumentation

The research instruments used were:

- i. Teachers-positive Feelings and Behaviour Schedule (TPFBS)
- ii. Science Achievement Test (SAT)

TPBFS was an observational schedule developed by Dunlap, Carr, Homer, Zarcone and Schwartz in 2008 to:

- i. Determine teachers that could be used as teachers of positive feelings on conventional teaching behaviour, and
- ii. procedures for monitoring teachers in their classes to ensure they do not deviate from stipulated guidelines for the experiment

TPBFS consisted of categories of verbal and non-verbal components of teaching behaviour. Its value ranges from 0.82 to 0.95 as stipulated by scott-pie value on inter observer reliability.

SAT as a test of students' cognitive performance in sciences had test-items of fifty (50) multiple-choice questions. Content validity on the items were considered by specialists in science. To this a test reliability of 0.72 was realized.

Research Procedure

The SAT multiple choice test was administered to the two group of the beginning of treatment. Scores generated formed the pre-test data. Subsequently, students in the experimental group were taught by teachers with improved feelings and behaviour, while those in the control group were also taught but with the conventional teaching method. The researcher ensured that the guideline laid out for the study was followed. Teaching was done for two times a week for eight weeks after which the SAT was re-administered to the students by their teachers during their normal classes. This acted as the post-test. Students indicated their sex (ie male or female) on their answer sheets.

Results

T-test was used to test the significance of the group mean scores. To test for HO1, the post-test mean scores of the experimental and control groups were compared as shown in table 1 below:

Table 1: t-test of significance of mean scores of experimental and control groups.

Group	N	\bar{x}	SD	T-cal	T-tab
Experimental	110	34.7	3.24	6.73*	1.96
Control	100	29.8	5.40		

*Significant at $p < .05$

Table 1 showed that the experimental group ($X = 34.7$, $SD = 3.24$) differed significantly from the control group ($X = 29.8$, $SD = 5.40$) at $P < .05$ with a t-test

value of 6.73, Ho 1 was therefore rejected since there is a significant difference in the mean score of the experimental group taught by teachers with ascertained positive feelings and those taught by teachers without positive feelings.

To test HO₂, the post-test scores of male and female science students taught with conventional teaching behaviour were compared.

Table 2: t-test of significance of mean achievement scores of male and female science students exposed to the conventional teaching behaviour (control group).

Group	Gender	N	\bar{x}	SD	T-cal	T-tab
Control Group	Male	40	27.5	3.77	7.64	1.96
	Female	60	23.2	5.21		

*Significant at $P < .05$

Table 2 with t-value (7.64 $P < .05$) showed that the mean score of males in the control group ($X=27.5$ $SD =3.77$) differed significantly from the mean score of females ($X=23.2$ $SD =5.21$) in the group. Ho₂ was therefore rejected since the means differ significantly.

Testing for Ho₃, the post-test mean scores of male and female science students in the experimental group were compared.

Table 3: t-test of significance of mean performance scores of male and female students exposed to improved teachers feelings and behaviour (the experimental group).

Group	Gender	N	\bar{x}	SD	T-cal	T-tab
Experimental Group	Male	50	38.76	2.46	0.40	1.98
	Female	60	36.57	2.75		

Not significant at $P > .05$

Result from table 3 shows that there is no significant difference in the performance of male and female students exposed to teachers with positive feelings and behaviour. Therefore, Ho₃ was not rejected.

Discussions

This study investigated male and female student's performance in sciences when they were exposed to teachers with positive feelings and behaviour about gender equality in classrooms. The result showed that students exposed to teachers with

positive feelings performed significantly better ($X = 34.7$) than their counterparts ($X = 29.8$) exposed to conventional teaching behaviour. Result from table 1 showed $t = 6.73$ at $P < .05$. Hence, it could be said that students' science performance depends on the extent to which teachers' positive feelings and behaviour are improved. This could be due to the fact that teachers having positive feelings and behaviour fosters conducive classroom climate for better participation and interaction. The results further revealed that the post-test mean scores of male and female science students exposed to the conventional teaching behaviour were significantly different. This shows that the conventional method of teaching is not suitable for teaching science concepts and principles.

A further comparison of the posttest mean scores showed that there was no significant difference in the science performance of male and female students exposed to positive teachers feelings and behaviour. Table 3 showed $t = 0.60$; $P > 0.05$. This implies that the use of positive teacher's feelings and behaviour is an effective means of bridging the gender inequality in science performance. This result confirms the claim of Adesoji and Babtunde (2008), and that of Hanerland, Nicole, and Deberah (2015) that teachers are the cause of gender inequality in science performance which is as a result of their negative feelings and behaviours.

The result also supports the assertion of Petterson (2003) that students can be seduced to perform better academically through positive feelings and behaviours.

Conclusion

This study was able to draw out some differences between ways of viewing gender. It looked at an age-old feature of identifying girls and boys as well as merely commenting on the equal levels of provision of girls and boys. It as well proffers solution to the observed differences in the science performance of male and female students.

With the use of positive teachers feeling and behaviours, the performance of female students was not significantly different from that of male students.

Recommendations

Based on the discussion and findings of this study the following recommendations were made:

1. Teacher's positive feelings and behaviours should be improved thereby developing positive contacts with the students.
2. There is need for education planners to develop clear, consistent and practical definitions of gender and gender equality in education policy documents, outlining gender/gender equality issues in teaching and management in line with National Gender Policy Document.

3. There is also the need for the Ministries of Education and Organized bodies including NGOs to organize training workshops and seminars for science teachers that they develop positive attitude in their classrooms.

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