

ACADEMIC ACHIEVEMENTS OF EXTROVERTED AND INTROVERTED PUPILS IN PRIMARY SCHOOL MATHEMATICS

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Abstract

The purpose of this study was to find out whether extroverted pupils had higher academic achievements than the introverted pupils in primary school mathematics. Ex-post-facto design was applied in carrying out this study. The sample consisted of 260 primary school promotion examination mathematics scores for 130 extroverted and 130 introverted pupils. The introverted pupils had a higher mean percentage score than the extroverted pupils. However, there was no significant difference between the mean percentage scores of the introverted and extroverted pupils in primary School mathematics. Some recommendations were made to improve teaching and learning.

Experience has shown that when a teacher steps into the classroom to teach a concept, some pupils are observed to behave as if they already know the concept introduced by the teacher (Igbojinwaekwu, Kpeke and Asuka, 2007). At the slightest attempt by the teacher to elicit the entry behaviour of the pupils, these pupils are clearly seen to be ever-ready to give solutions to questions, by raising up their hands (Igbojinwaekwu, Kpeke and Asuka, 2009). The inexperienced teachers are tempted to work with the extroverts believing that their 'responses' in the classroom facilitate the teaching-learning process. In this regard, the teacher (inexperienced) may want to focus attention on the seemingly quiet (introverted) pupils who may not have understood the concept being introduced (Igbojinwaekwu, 2009). This may not, however, be the attitude of the experienced teacher whose duty is to ensure that the concept being introduced is understood by both the introverts and extroverts (Igbojinwaekwu, 2009).

Igbojinwaekwu, kpeke and Asuka (2007) opined that the group of pupils who raise hands to give answers to questions and pretend to know the concepts introduced by the teacher is called extroverts, while those pupils who remain quiet and do not raise hands to give answers to questions, except when they are requested to do so by the teacher, are called introverts. They further stated that the extroverted pupils, in most cases, appear to be very interested in what goes on in the classroom or the environment; they seem to have won the hearts of the teachers, because the appointment of the school prefects appears to come from the extroverted pupils. According to Eysenck (1952) in Gray (1991), any person who seeks excitement in the external environment is known as an extrovert. Also, Eysenck (1952) in Gray (1991) reported that the person who avoids excitement in the external environment is called an introvert. Eysenck and Eysenck (1985) believed that differences among people are determined by inherited psychological characteristics of the nervous system (NS). They reported that differences in introversion and extroversion stem from the differences in the arousability of the central nervous system (CNS) from the sensory inputs (SI). Eysenck (1982) proposed that everyone seeks a moderate degree of arousal which is optimal for psychological functioning. He added that introverts have easily aroused CNS and so, they avoid excess stimulation to prevent arousal from exceeding the optimal level, while extroverts have CNS that are not easily aroused and therefore, they seek excess stimulation to reach the optimal level. In agreement with Eysenck and Eysenck (1985) and Eysenck (1982), Gray (1991) observed that introverts do react more strongly than do extroverts to various stimuli. Geen (1984) supporting Eysenck (1982) and Eysenck and Eysenck (1985) reported that introverts show great disruption in performances on a learning task when loud noise is present and manifest a great skin conductance response than the extroverts. In line with the findings of Eysenck and Eysenck (1985), Geen (1984) and Eysenck (1982), Smith, Wilson

and Davidson (1984) in Gray (1991) found that introverts show sign of greater arousal to sudden noise than the extroverts.

Eysenck (1982) recognized two groups of Extroverts (unstable and stable ones) and two groups of introverts (unstable and stable ones). According to Eysenck (1982), unstable extroverts are group of people who are touchy, restless, aggressive, excitable, changeable, impulsive, optimistic and active, while the stable extroversion is social, outgoing, talkative, easy-going, lively, carefree and shows leadership characteristics. The unstable introversion is moody, anxious, rigid, sober, pessimistic, reserved, non-sociable and quiet, while the stable introversion is passive, careful, thoughtful, peaceful, controllable, reliable, even - tempered and calm.

Inexperienced and at times experienced teachers, find it very difficult to cope with teaching extroverted and introverted pupils simultaneously in a class; the inexperienced teachers tend to work with the extroverted pupils to the detriment of the introverted pupils, while the experienced teachers tend to work with the introverted pupils, believing that it is the only way to academically bring them up to the level/ standard of their extroverted ones, to the detriment of the extroverted ones (Igbojinwaekwu, kpeke and Asuka, 2007). In recognition of the differences existing among people and diversity of the people of Nigeria, the Federal Government of Nigeria (FGN) entrenched in the 1999 constitution the policy of equal and adequate educational opportunities at all levels (FGN, 1999) Also, the National Policy on Educational (NPE) provides for equal educational opportunities to all Nigerians, irrespective of their differences (FRN, 2004).

Problem of the Study

The teachers being the implementers of the school curriculum should not be placed in a confused state (Oyegwe, 1998). So, all the problems standing between the teachers and the task of successfully performing their duties of curriculum implementation, must be reduced to its barest minimum or completely eradicated (Idialu, 1998). One of the important ways of doing this is to make the teachers understand the different categories of the pupils they are teaching or to be taught in order not to give undue advantage to any group, to the detriment of the other (Igbojinwaekwu, 2009).

Identification of extroverts and introverts was carried out by Eysenck (1952) in Gray (1991). The difference in the degree of arousability of the CNS from sensory input between the extroverts and the introverts was studied by Eysenck and Eysenck (1985), Gray (1991), Geen (1984) and Smith, Wilson and Davidson (1984). Igbojinwaekwu, kpeke and Asuka (2009) carried out extensive studies on academic achievements of extroverted and introverted students in senior school biology. Igbojinwaekwu (2009), also, carried out extensive study on the academic achievements of extroverted and introverted students in senior school mathematics. No study has been found on academic achievements of extroverted and introverted pupils in primary school mathematics in Oshimili North Local Government Area (ONLGA) of Delta State. The need to close this gap gave birth to this study. The problem of this study is therefore, stated thus: what is the academic achievement of the extroverted pupils vis-à-vis the academic achievement of the introverted pupils in primary school mathematics?

Purpose of the Study

The main purpose of this study is to find out whether the extroverted pupils have a significant higher mean academic achievement than the introverted ones in primary School mathematics.

Significance of the Study

The significance of this study is to expose to the practicing teachers the two major categories of pupils (extroverts and introverts) in a classroom situation, especially their characteristics, such that the practicing teachers should not sympathize or work with either of them to the detriment of the other and to find out whether it is even justifiable for the teachers to tend towards working sympathetically with either the extroverted or the introverted or both categories of pupils. Another significance of this study is that it assesses the present Primary School Curriculum as to whether it is providing education for all as contained in the NPE and entrenched in the 1999 constitution of the FRN. Again, this study

Academic Achievements of Extroverted and Introverted Pupils in Primary School Mathematics

provides base line data to researchers wishing to work on this topic in another locality or different subject area.

Null Hypothesis

Ho₁: There is no significant difference in mean academic achievements in primary school mathematics between extroverted and the introverted pupils.

Methodology

Ex-post- facto research design was used in carrying out this study. The population comprised 16,420 Primary School Promotion Examination Mathematics Scores (PSPEMS) of 2009 for primaries 3, 4 and 5 pupils of schools in ONLGA of Delta State, Nigeria. During the one week classroom interactions among the researcher, six educational psychologists and the primary school pupils in primary Schools in ONLGA, it was observed that out of the 16,420 pupils of primaries 3, 4 and 5 whose PSPEMS

Results

Table 1: The z-test on Mean Achievement Scores of Extroverted and Introverted Pupils in Primary School Mathematics in ONLGA of Delta State.

S/N	Pupils	N	MEAN	SD	df	z_{cal}	z_{crit}	P
1	Extroverted	130	66.31	7.13	258	1.16	1.96	<0.05
2	Introverted	130	67.36	19				

Data in table 1 show that the mean score of the introverted mathematics pupils was higher than the mean score of the extroverted mathematics pupils. The data further show that z_{cal} is less than z_{crit} . This implied that there was no significant difference in academic achievement between the extroverted and introverted pupils in Primary School mathematics. Therefore, the null hypothesis was retained.

Discussion of Findings

The finding of no significant difference in mean percentage scores in Primary School mathematics in this study between the extroverted and introverted pupils is in agreement with Igbojinwaekwu, kpeke and Asuka (2007) who reported that the introverted and extroverted pupils have their shortcomings. They further stated that when a teacher probes deeply by evenly distributing his questions, he/she discovers that, in some cases, introverted pupils give better answers to questions than the extroverted ones, while in another situation, the extroverted pupils supply better answers to questions than their introverted counterparts. The no significance difference in the mean percentage scores between the extroverted and introverted pupils may probably stem from the fact that the extroverted pupils who seem to have interest in what goes on in their environment gain more during the classroom interactions with the teachers, while the introverted pupils who seem not to be interested in what goes on in their environment gain more by concentrating more on reading their notes. The classroom interactions involve noise which disrupts the performance of introverts on a learning task as reported by Geen (1984) and Smith, Wilson and Davidson (1984) in Gray (1991). This is a serious disadvantage to the introverted pupils, because the CNS of the introverted pupils are easily aroused by any slightest noise, while in the case of the extroverted pupils, the CNS are not easily aroused by any slightest noise, to reach its optimal level of disruption (Gray, 1991; Eysenck,1982).

The higher mean percentage score of the introverted pupils over their extroverted counterparts probably comes from the fact that one of the conditions needed during any examination is absolute calmness. On the part of the pupils, they should be very careful in answering their questions and rigid

in obeying the examination rules. These attributes of calmness and rigidity are more of introversion than extroversion as reported by Eysenck (1982) that the introverted pupils are calm, reliable, careful, rigid and anxious, while the extroverted pupils are restless, carefree, talkative, easy-going and responsive. The implication is that examination conditions would have probably favoured the introverts than the extroverts.

Conclusion

The introverted primary school pupils had higher mean percentage score in primary school mathematics than their extroverted counterparts. The difference in mean percentage scores between the introverted and extroverted primary school pupils in primary school mathematics was not statistically significant.

Recommendations

Following the findings in this study, the following recommendations were made:

1. Seminar/Workshops should be organized for teachers on human psychology or personality traits to inform them on what they would meet during teacher- student's classroom interactions;
2. More information on human psychology should be included in the Colleges of Education in Nigeria and Faculties of Education of Nigerian Universities Curricula in order to adequately train the teachers based on what they would meet in the classroom;
3. Teachers are advised not to be carried away or be discouraged with the specific external behaviour of pupils, but to accept all categories of pupils, so as to be convinced that their lessons have been properly or adequately delivered.

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Academic Achievements of Extroverted and Introverted Pupils in Primary School Mathematics

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