

INTELLIGENCE QUOTIENT AS CORRELATES OF LOWER PRIMARY SCHOOL PUPILS' PERFORMANCE IN SOCIAL STUDIES IN OSUN STATE, NIGERIA

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Abstract

The study examined the level of intelligence quotient as correlates of lower primary school pupils' performance in Social Studies in the study area. The study adopted correlational survey research design. The population comprised lower primary school pupils in Osun state. The sample size consisted of 500 pupils who were selected using multistage sampling procedure. Two research instruments were used to gather data for the study. The data collected were analysed using simple percentages, frequency counts and Pearson Product Moment Correlation at 0.05 significant level. The results showed that the selected pupils had a high level of intelligence quotient in the study area with percentage value of 69.7%. The result also showed a significant relationship between pupils' level of intelligence quotient and pupils' performance in Social Studies ($r=0.436$, $P<0.05$). The study concluded that there exists a positive relationship between intelligence quotient and performance of the pupils. The study recommended that pupils should be made to undergo intelligence quotient test frequently and regularly to enable the teachers and school identify pupils' abilities and overall achievement.

Keywords: Intelligence quotient, Lower primary school, Pupil's performance, Social Studies

Introduction

Social Studies is one of the fundamental subjects that revolve round the total life of an individual, right from early childhood to adulthood. It is a subject that prepares and develops children holistically for remarkable adulthood. Social Studies is connected with human beings in all facets in order to make it possible for individuals to live happily, comfortable and peacefully co-exist within the nation and the world at large. It is an amalgamation of subjects like History, Government, Civics, Economics, Sociology or Anthropology and Geography. As a totality of experience that a learner is being exposed to, it enables them to study people in relation to their social, academic, economic, cultural, physical and psychological lives. It has to do with humans' overall growth in order for them to become effective together, being dynamic citizens that will see to day to day peaceful activities that aid the growth and development of their respective society and nation at large.

This means that the country requires

citizens who are not only critical and constructive thinkers, but also those who have strong social, political, and environmental values. Through its contents and techniques, Social Studies as a discipline and as a way of life aims to provide young learners with such knowledge, values, and skills. Its material is diverse and distinct, and its methods are rich in diversity (Ifegbesan and Lawal, 2017). The prime purpose of Social Studies is to help youngsters to develop the ability to make informed and useful decisions for public interest as citizens of a diverse and multicultural, democratic society in an interconnected globe. This assertion indicates that a subject like Social Studies requires both cognitive development and emotional maturity of an individual (Babatunde, Benedict and Adu 2016) in order to enhance a learner's academic performance. Nevertheless, it has been discovered that pupils' performance in Social Studies is not encouraging, as there are many character defects in the society today coupled with so many crimes (Ojo 2008, Onyeama 2016 & Adetoro and Omiyefa 2013). The major root

problem is due to the way the parents, children, school teachers and school heads treat a subject like Social Studies, due to lack of in-depth knowledge on what the subject is capable of doing in the society compared to other subjects like Mathematics, English Language, Basic Science among others. People place less emphasis on Social Studies based on the level of their exposure. Kapur (2018) also attested to the fact that attitude of pupils, school resources, leadership aspects, skills and abilities of the teachers, classroom environment, role of parents, social circle, visual and hearing impairments, counselling and guidance services as well as low intelligence quotient, which is the main focus of this study, among others as some major factors responsible for poor academic performance of pupils.

Kpolovie (2016) asserted that intelligence could be effectively defined, as assessed by the Culture Fair Intelligence Test, which has been approved for usage and has been verified and certified in Nigeria as the overall mental ability to rapidly learn, answer novel problems, rectify abstract problems, create associations, effortlessly understand concepts precisely, think in a rational way, act thoughtfully, and most efficiently adapt to one's surroundings. Likewise, intelligence is an essential factor which can determine academic achievement in schools, and has an important role in pupils' future success.

Similarly, Intelligence has an impact on a pupil's capacity to acquire new knowledge and information and use it as a foundation for processing and solving an issue. Individuals' cognitive abilities, such as reasoning, memorizing, understanding, having to learn, cognitive flexibility, and communicative skills, are strongly linked to intelligence (Darling-Hammond, Flook, Cook-Harvey, Barron, and Osher, 2020). Furthermore, intelligence quotient (IQ) is a common term used to describe a set of mental functions that includes reasoning, planning, problem - solving skills, abstract thinking, concept comprehension, linguistic usage, and learning.

It can simply be referred to as a ratio to assess a person's intelligence, irrespective of age, using standardized tests. IQ is an individual's ability to respond appropriately to a stimuli received (Pratama, Syamsuri, Adi and Aloysius, 2015). Also, from the medical point of view, Adeboye, Katibi, Adeboye, Ojuawo, Afolabi, Buhari, Adegunloye,

Bello, Omeffe and Abdulazeez (2018) asserted that the intelligence quotient (IQ) is a numerical representation of a person's intellectual level when compared to the statistical distribution for his or her age range. It is calculated on numerous traditional scales by dividing the mental age (as established by psychometric tests) by the chronological age and multiplying the result by 100. A hundred is the average IQ score. It is normally distributed in the general populace.

Intelligence quotient increases with age up to about 18 years and then for the most part, adult life is rather stagnant. Those with an IQ of above 130 are extremely intelligent, whereas those with an IQ of less than 70 are learning disabled especially in the presence of mal-adaptive behaviour at the onset prior to developmental age which is 18 years. Therefore, for proper and adequate development of pupils' intelligent quotient, there is need for parents to possess good social economic background in order to provide adequate balanced diet for their children right from conception throughout the stage of early childhood till early adulthood (Oommen, A. (2014). Also, there is need for good schools with stimulating and conducive environments for learning. Children also need challenging cum brain stimulating home where the school efforts can be sustained and built upon, but in all, school environments are germane to the overall development of intelligent quotient of pupils. Some other scholars further stated some underlining key factors that could also contribute to the overall development of IQ such as prenatal environment (like maternal nutrition and health status), natal events (like term of delivery, birth weight, etc.) or post-natal environment and daily habits (Bhinde, Patalia and Joshi, 2015). Many factors have been attributed to level of academic performance among learners across institutions of learning. Studies have shown that children's academic performance have been relatively low because of lack of considerations of the influence of intelligent quotient by the teachers (Kumar, 2020 and Hawkins 2014).

Likewise, academic performance is the prime motive for educators to improve students' learning and achievement. Academic achievement is one of the criteria used to evaluate pupils learning outcomes. It is the process of assessing a student's

behavioral change at the end of a lesson. These characteristic categorises pupils into three groups: slow, average, and rapid learners. Students' success and academic progress are influenced by factors such as school types, socioeconomic background, parental education, intellectual level, personality, and a host of others. Both environmental and biological variables influence intellectual growth. Chandra and Azimmudin (2013) submitted that as academic achievement is a good predictor of a pupil's academic success, it is important to identify the extent to which intelligence determines academic performance in order for children with average or even lower IQ to maximize their academic results. It is against this background that this study was construed to *examine the level of intelligence quotient as correlates of lower primary school pupils' performance in Social Studies*.

Statement of the Problem

The importance of learning of Social Studies is increasing because of increasing pressure to catch up with the developed world regarding, for example, global competitiveness in intelligence (Hawkins 2014). Furthermore, it has been noted that few studies have been committed to investigating intelligence variables that affect students' performance in school (Cookson, 2018), with those that have been conducted, focusing mostly on demographic correlates as a part of their studies (Kumar, 2020). Intelligent quotient no doubt plays a major role in the extent to which a student will be successful in his or her academic pursuit. Also, previous researches revealed that the performance of a learner at post-primary and tertiary levels is dependent on learners' level of intelligence quotient, students' attitude, interest among other factors (Sheshagiri, Bhaskaran, Patel & Rajagopala, 2016; Kapur, 2018). However, there is need to ascertain if there is any relationship between intelligence quotient and lower primary school pupils' performance in Social Studies.

Purpose of the Study

The purpose of this study are to:

- (a) examine the level of intelligence quotient among lower primary school pupils in Osun State;
- (b) determine the lower primary school pupils' performance in Social Studies in study area; and
- (c) investigate the relationship between pupils' level

of intelligence quotient and pupils' performance in Social Studies.

Research Questions

The following research questions were raised in order to address each of the purpose of the study:

- i. What is the level of intelligence quotient among lower primary school pupils in Osun State?
- ii. What is the lower primary school pupils' performance in Social Studies in study area?

Hypothesis

There is no significant relationship between pupils' level of intelligence quotient and pupils' performance in Social Studies.

Methodology

Correlational research design was used in this study. The population of the study comprised the lower primary pupils in all Basic schools in Osun State. The sample for this study comprised 500 pupils selected through multistage sampling procedure. A senatorial district was selected from the three in the state using simple random sampling technique from which 10 Local Government Areas (LGAs) were selected through the same selection technique. From each LGA, one basic school was selected using simple random sampling technique. Fifty (50) pupils ranging from primary two to three i.e. 25 pupils from primary two and 25 pupils from primary 3 were selected from each school using simple random sampling technique. Two research instruments were used for collecting data for the study. These were adopted version of Wechsler Preschool and Primary Scale of Intelligence (WPPSI) and Record of Pupils Performance in Social Studies (RPPSS). The first instrument adopted from Goertzel (2013) titled; Wechsler Preschool and Primary Scale of Intelligence (WPPSI) was used to collect data to measure pupils level of intelligence. The WPPSI contained two sections. Section A contained personal information such as gender, age and class of the pupils while section B contained 11 items (with 2-4 subsets) to measure the intelligence quotient of pupils.

The second instrument, which was self-designed, titled; "Record of Pupils' Performance in Social Studies (RPPSS)" was used to extract the pupils' end of term achievement in Social Studies examination.

The RPPSS contained two sections; section A contains the demographic data of the pupils, while section B contains the terminal performance of pupils in Social Studies. This was done with the assistance of the classroom teachers after necessary approval has been obtained from the school authority. The average performance in Social Studies per term was then summed up. Wechsler Preschool and Primary Scale of Intelligence (WPPSI) was given to the experts in Test and Measurements as well as Early Childhood Education to establish both face and content validity. A trial testing of the instrument was conducted on 50 pupils in lower primary school outside the scope of the study and the pupils were subjected to the IQ test on two different occasions. The WPPSI test was subjected to test retest reliability and the result yielded a coefficient of 0.78 which was judged reliable.

The data collected were analysed using frequency counts and simple percentages to examine the level of intelligence quotient and to determine the level of academic performance in Social Studies among pupils in lower primary schools while Pearson Product Moment Correlation was used to test the hypothesis. Tables and figures were presented based on the research questions and hypothesis generated to guide this study.

Results

The demographic characteristics of the respondents were analysed and presented in the table below.

Item	Frequency	Percentage
Gender		
Male	138	27.6
Female	362	72.4
Age		
5-6	108	21.6
6-7	249	49.8
8 and above	143	28.6
Class		
Primary 2	250	50.0
Primary 3	250	50.0

Table 1 showed the features of the respondents' age, gender, and class. 27.6% of the respondents were male while 72.4% were female. The female gender had the largest respondents. Furthermore, 21.6% of the respondents were within the age range of 5-6 years' old, 49.8% were between the age range of 6-7 years old, while 28.6% of those who responded were 8 years or older. Respondents within the age range 6-7 years old were the largest. Also, 50% were from primary 2 and 50% were from primary 3

Table 2: Level of Intelligence Quotient among Lower Primary School Pupils in Osun State

Intelligent Quotient Level	Pry. 2	Pry.3
Low	44 (9.3)	42(9.2)
Average	20(4.3)	35 (7.5)
High	168 (36.1)	154(33.6)
Total	232 (49.9)	233(50.1)

Table 2 presented the level of intelligence quotient among lower primary school pupils in Osun State. It was seen that 9.3% in primary two and 9.2% in primary three had a low level of intelligent quotient, 4.3% and 7.5% in primary two and primary three had an average level of IQ, while 36.1% and 33.6% of primary two and primary three respectively had a high level of IQ. From the table, majority (69.7%) of the respondents demonstrated high level of intelligence quotient, 18.5% demonstrated low level of intelligence quotient, while only 11.8% demonstrated average level of intelligent quotient.

Research Questions 2: What is the lower primary school pupils' performance in Social Studies in study area?

To answer this question, pupils' performance in Social Studies was extracted from their records as presented in their schools. Performances of pupils for first and second terms were extracted. The results were then added together after which the average result for each of the pupils was found. To categorise the performance of the pupils, those whose average scores were 70 and above were categorised as having high performance, those whose average scores were between 50 and 69 were considered as having average performance, those who score 49 and below were considered as having high performance. These were subjected to descriptive analysis and the result is presented in Table 3.

Table 3 : Lower Primary School Pupils' Performance in Social Studies

Pupils' Performance Level	Pry 2	Pry 3
Low (0-49%)	25 (5.0)	16 (3.3)
Average (50% & 70%)	62 (13.3)	77 (16.6)
High (70% & above)	145 (31.2)	140(30.1)
Total	232 (49.9)	233(50.1)

Table 3 presented the performance of kids from lower primary schools in Social Studies in Osun State. For each of the classes, 31.2% and 30.1% in primary 2 & 3 had high level of academic performance in Social Studies, the average level of performance was seen by 13.3% and 16.6% of respondents in primary 2 and 3 while 5.0% and 3.3% had low level of academic performance in primary 2 & 3. From the table, majority (61.3%) of the respondents had high performance, followed by 29.9% of the respondents who performed averagely. Only 8.8% of the pupils had low performance in Social Studies.

Hypothesis

There is no significant relationship between pupils' level of intelligence quotient and pupils' performance in Social Studies.

To test this hypothesis, the measures of the pupils in scale of intelligence and their average scores in Social Studies performance were subjected to Pearson Product Moment Correlation analysis, using measures on scale of intelligence score and pupils' performance as the dependent variable. The result is presented in Table 4.

Table 4: Relationship between Pupils' Level of Intelligence Quotient and Pupils Performance in Social Studies

Correlations		Scale of intelligence	Average
Scale of intelligence	Pearson Correlation	1	.436**
	Sig. (2-tailed)		.000
	N	465	465
Pupils	Pearson Correlation	.436**	1
	Sig. (2-tailed)	.000	
	N	465	465

** . Correlation is significant at the 0.01 level (2-tailed).

The table showed the relationship between level of intelligence quotient and performance of pupils in Social Studies. It showed $r = 0.436$, $p < 0.05$ which implies that a significant relationship exists between pupils' level of intelligence and performance in Social Studies. The positive value of the correlation shows that there exists a positive moderate level of relationship between intelligent quotient and performance of the pupils. Hence the hypothesis is therefore not accepted.

Result from research question one indicated that majority of the pupils possessed high level of intelligent quotient; this is followed by those who exhibited low (18.5%) and average (11.8%) level of intelligent quotient. This result is consistent with that of Akubuilu, Iloh, Onu, Ayuk, Ubesie, and Ikefuna, (2020) who found that the majority of the pupils observed in their study exhibited high intelligent quotient. However, most of the researches conducted in this line in Nigeria had reported a low or suboptimal intelligence quotient among pupils (Ejekwu, Ene-Obong and Oguizu, 2012). Also, in a study conducted on Malnutrition and the intelligence quotient of primary school pupils in Jos, Nigeria, Adedeji, John, Okolo, Ebonyi, Abdu, and Bashir (2017) found that majority of the students demonstrated low and suboptimal level of intelligent quotient. In fact, majority of the respondents were found to be intellectually deficit. Studies conducted in other countries have been found to also negate the result of this finding. For instance, in a study conducted by Phusee-orn, Ruannakarn, Seehamongkon, Piyakul, Yurayat, Suk-erb, Tuklang, Sirisittanapak, Khoungsimma and Sakulthong (2019), on intelligence quotient for primary school students in mahasarakham province, the results showed that majority of the pupils exhibited average level of intelligent quotient.

Similarly, a study conducted by Ranabhat, Kim, Park, Kim, and Freidoony (2016) among pupils in Nepal, India, result showed that majority of the respondents exhibited low level of intelligent quotient. Many factors may be responsible for these variations in the results of these researches. For instance, pupils' intelligent quotient is influenced by factors such as genetics, and environment (Oommen, 2014) among other factors. These factors may be responsible for variations in the intelligent

quotient reported among these different studies. Although, several other studies tend to agree in contrast to the findings of this present study, this present study thus serve as variation from the established norms of low level of intelligent quotient previously examined to be low among pupils. Another possible factor might the difference in intelligent quotient tests used, as this has also been found to influence the reportage of intelligent quotient among pupils (Oommen, 2014).

The result to research question two revealed that majority of the pupils had high academic performance in Social Studies, followed by 29.9% who had average level of academic performance, and 8.8% who had low academic achievement in the subject of Social Studies. This result is consistent with the result of Akubuilu et.al (2020) conducted among pupils in Enugu State. Intelligent quotient is one of the factors predicting high academic performance among pupils/students (Watkins, Lei and Canivez, 2007). This is because academic success, although determined by many other factors, pupils' intelligence has also been found to be one of the major influences of performance. Also, researches of the authors (Adedeji et.al, 2017; Ejekwu et.al, 2012) who found low intelligent quotient among pupils reported high level of academic performance among the pupils. Possible reasons for this consonance in pupils' academic performance might be due to teachers' factors, teaching methods, different modes of rating students' performance among other things.

The result of the hypothesis indicated that pupils' level of intelligence quotient had significant and positive relationship with their academic performance in Social Studies. This finding negates the results of certain studies whose findings revealed that pupils' intelligent quotient is not in any way associated with their academic performance. For instance, Naderi, Abdullah, Aizan and Sharir (2010) conducted a study among students in Malaysia, their result indicated that there is no significant relationship between students' intelligent quotient and academic performance. In the same vein, a study conducted among pupils in India by Arya and Maurya (2016) revealed that pupils' intelligence quotient is not associated with their performance in school. These variations may be accounted for as the kind of intelligent test used might be different from

one another. However, this result is consistent with the findings of Akubuilu et.al (2020) who found that the intelligent quotient of pupils was found to be associated with their academic performance. Also, the result is in agreement with that of the study by Dandagal and Yarriswami (2017) that pupils' intelligent had a significance influence on their academic performance in schools. Reason for the influence of intelligence and academic performance is majorly due to the argument that intelligence increases learning ability, which in turn improves academic performance. This shows that pupils who are more intelligent always perform better than other pupils. However, different other

Conclusion

The findings of this study showed that the majority of the pupils observed in this study exhibited high intelligent quotient and that they had high academic performance in Social Studies. It further revealed that pupils' level of intelligent quotient had significant and positive relationship with their academic performance in Social Studies. This implies that high intelligent quotient will lead to better academic performance in Social Studies among the pupils.

Recommendations

Based on the findings of this research, the following recommendations were made:

- i. Pupils should be made to undergo intelligence quotient test frequently and regularly to enable the teachers and school identify pupils' abilities and overall achievement.
- ii. Placement of pupils in classrooms should be according to their intelligence ability as this will help teachers use the methods of instruction that will be suitable to their cognitive strengths and weaknesses.
- iii. Classroom teachers should understand intelligence ability of each pupil in order to impart meaningful learning to the pupils.

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