PEOPLE: International Journal of Social Sciences
ISSN 2454-5899

Rasheed Alaro Adewale Hamzat, 2016

Volume 2 Issue 1, pp. 868-877

Year of Publication: 2016

DOI- http://dx.doi.org/10.20319/pijss.2016.s21.14281437

This paper can be cited as: Hamzat, R. A. A. (2016). Efficacy of Acceleration and Ability Grouping on Academic Achievement of Gifted Students in Selected Secondary Schools in Moro Local Government Area, Ilorin Nigeria. PEOPLE: International Journal of Social Sciences, 2(1), 868-877.

EFFICACY OF ACCELERATION AND ABILITY GROUPING ON ACADEMIC ACHIEVEMENT OF GIFTED STUDENTS IN SELECTED SECONDARY SCHOOLS IN MORO LOCAL GOVERNMENT AREA, ILORIN NIGERIA

Rasheed Alaro Adewale Hamzat
Kwara State University, Malete, Nigeria
rasheedalaro@gmail.com
rasheed.hamzat@kwasu.edu.ng

Abstract

The type of educational instructions expected to be delivered to the gifted students differ quantitatively from the traditional methods in general classroom settings. This is because, traditional and conventional strategies may not challenge the educational needs of the gifted. Considering the enormity of what is expected of build a qualitative education of the gifted, this study investigated the efficacy of acceleration and ability grouping on academic achievement of gifted students in selected secondary schools in Moro Local Government Area in Ilorin, Nigeria. The study used the pre-test post- test control group quasi-experimental design in a 3X2 factorial matrix. The participants for the study consisted 60 Senior Secondary School gifted students from eight secondary schools in Ilorin. The subjects were randomly assigned into three experimental groups. Analysis of Covariance was the main statistical method used to test two formulated hypotheses at the probability of 0.05. The findings revealed that there was significant mean effect of treatment on academic achievement of gifted students ($F_{(2,53)}$= 32.12). There was no significant main effect of gender. The study also showed that gifted male participants exposed to Acceleration and

Ability grouping teaching models had higher mean score (= 80.83) than female counterparts exposed to the same treatment. Since Acceleration and Ability grouping models are capable of enhancing gifted students' academic achievement, it is therefore recommended that both regular special educators should use these teaching models in enhancing the academic achievement for the precocious ones.*

1. Introduction

Boredom can be created through routine exercises in heterogeneous classes; mostly affected population is students with high potentials in regular classrooms. Most gifted students are not adequately challenged and not being reached out to in terms of differentiated educational provisions that can be tailored towards the specific needs in our regular schools. Acceleration and ability grouping as teaching models for gifted and talented students have been found challenging enough to differentiate education for the gifted students (Fatting and Taylor, 2008).

Schools across the world have been adding more teaching learning models for all ages and abilities. Gifted and talented students in many schools, now use various teaching learning models in their classrooms and increasingly large percentage of these students have developed their intellectual functioning through the use of these models. Agitations for differentiated educational models are alarmingly increasing by special education practioners, general educators, captains of business and industry, government, and the general public, belief that students must be facilitated through the various teaching learning models for a developed intellectual functioning. The disparity between theory and practice is attributed to many causes; ranging from lack of educational focus; to shortage of funding. Gifted and talented students are now benefiting from increased use of various teaching learning models because their special needs are being met through informed used of these various models (Jones, 1990).

According to Martinson (1980) the longer the gifted students are allowed to be in the special programs, the greater will be their gains. This was supported by Bloom (1985) who observed that their success was attributed to the opportunity of special programs which enhanced the exploration of their topics in their areas of interest and which allowed opportunity of developing their own techniques in solving problems. Maker (1994) asserted that the specific needs of gifted and talented children are complicated by the widely different options of what giftedness is and how it is manifested. However, the talents of gifted

youngsters are dynamic rather than static or fixed, and the youngsters and their talents must be nurtured. How schools nurture the gifted through the use of teaching learning models like acceleration and ability grouping models and its effect on their academic achievement is the focus of this work.

Therefore, a teaching learning model is a structural framework that serves as a guide for developing specific educational activities and environments. A model according to Maker, (1994) can either be theoretical and abstract, or it can be a more practical framework.

Regardless of whatever it is, the distinguishing features common to teaching learning models are implicit assumptions about the characteristics day-to-day learning experiences, Patterns and requirements for these learning activities and body of research surrounding their developments or an evaluation of their effectiveness.

The overall goal of educational programs for the gifted students should be fullest possible development of every child's actual and potential abilities. Gifted need exposure to enhance their academic achievement as they need some challenges in impacting and modifying the so called normal and/or traditional curriculum.

Silverman, (1995) opines that high-achieving students are 'languishing in the classroom, unable to focus their attention on material that was mastered long ago is unbearably simplistic, and has been reiterated beyond their tolerance level". Gifted and talented students learnt at faster rate than most students and they absorb and reconfigure more concepts; they benefit from a differentiated curriculum.

Acceleration is described as the most effective way to educate high-achieving students of all ages (Benbow, 1991); Gallagher, 1969; Kulik & Kulik, 1984; Reynolds Birtch and Tuseth, 1962; Southern and Jones, 1991). Its options include: content acceleration in one or two subjects while remaining with age peers, testing out of courses, curriculum compacting or telescoping. Concurrent enrolment in both high school and college advanced placement tests, early admission to college.

Silverman (1995) believes that acceleration is a "necessary response to a high-ability student's faster pace of learning" (p.229). A commonly heard concern is that early admission and grade skipping will lead to social or emotional problems because the child will be in a

classroom with older students who are more advanced physically and emotionally. Acceleration, therefore, is not as much as a process of applying pressure as it is one of moving restraints, restoring their natural pace and level of learning. The goal is to tailor the

level and complexity of the curriculum to the ability and academic readiness of individual children.

In the same vein, Feldhusen (1992) a strong advocate for acceleration who believes that it is the most powerful educational service we can offer to high achievers.

In additional, one of the important priorities express by educators of the gifted is a need to group according ability. The teaching learning model is designed to account for matching students' differences with appropriate instructions.

Jefferson as quoted by Adesokan (1992) is of the option that:

"There is nothing is more equal than equal treatment of unequal people"

Therefore, classroom teachers are responsible for finding ways to teach material in a manner that reaches a diverse set of students effectively. Ability grouping has even stronger effects on achievement for high-ability black and Hispanic youth (Page and Keith, 1996). The following are several forms of Ability grouping:

- Regular classroom;
- Regular classroom with cluster;
- Regular classroom with pull out;
- Regular classroom with cluster and pullout;
- Individualized classroom;
- Individualized classroom with cluster;
- Individualized classroom with pullout;
- Individualized classroom with cluster and pullout;
- Special class with some integrated classes;
- Special education;
- Special school.

Meanwhile, ability grouping is more than one-dimensional program when implemented in educational system. There are many different ways to separate students who are perceived to have different abilities.

Kulik (1992) distinguishes five (5) different grouping plans that in certain school systems are used either independently or simultaneously.

XYZ CLASSES: This grouping plan divides a single grade into several different abilities for a particular subject and each ability level is instructed in a separate classroom.

CROSS-GRADE GROUPING: This model takes students of the same ability across several grades and groups them together.

INTRA-CLASS GROUPING: Each classroom includes students with a wide range of abilities.

ADVANCED PLACEMENT AND ACCELERATED CLASSES: In this plan, most classes include students of high, average and low ability. However, it provides specialized instruction and accelerated classes for students with extremely aptitudes in specific subject area.

ENRICHMENT PROGRAMS: Only those who are high-achievers, provides more varied and richer experiences than those offered in the regular classroom.

Liu (2008) outlines some effectiveness of ability grouping as:

Develop more positive academic self-concept, assess students' involvement and interest in intrapersonal skills, build high level of cognitive skills, and increase in thinking skills.

Byrne (1990) analyzed the data from high school students in Canada to examine the impact of ability grouping on academic achievement of high-achieving students. The result was positive as expected high level student had high academic achievement.

Furthermore, Liu (2009) study showed positive academic performance in English after three years being ability-grouped in Taiwan. The academic confidence and overall English, self-concept of higher-ability college students were rather stable.

1.1 Statement of the Problem

Most gifted students are not adequately exposed to educational models that would challenge or nurture their innate abilities. Educational approaches about gifted and the best methods to guide them remain puzzles.

Gifted students exhibit or are capable of developing opportunities and services that are not ordinarily provided through regular or conventional school programs. The reasons not farfetched, the old stereotype curriculum and conventional instructional strategies may not be challenging enough to stimulate their innate abilities, especially in Nigerian schools.

In lieu of these challenges being faced by the Nigerians schools and the inability to identify their academic challenges, this study therefore, investigated the Efficacy of Acceleration and Ability as teaching learning models on the academic achievement of selected students in some secondary schools in Kwara State, Nigeria.

Therefore, the outcome of this study will serve as the basis upon which educational programs for the gifted can be improved considering these two models.

2. Method

A total of number of sixty (60) gifted students were selected from a targeted group of about 450 students from all the eight (8) secondary schools randomly selected for the study. The schools comprised both public and private secondary schools in Kwara State, Nigeria.

The average IQ level range from 125 and 135 for ages 14 to 16 with the use of Slosson Intelligence Test Revised Edition Teacher Nomination Checklist and Students' Academic Records for the last three terms.

3. Design

The researcher adopted a pre-test; post-test; control group, quasi-experimental design with a 3×2 factorial matrix which covers the instructional strategies. Two null hypotheses were tested in the study. They are:

- There is no significant difference in the academic performance of gifted students exposed to Acceleration, Ability grouping and Control group.
- There is no significant difference in the academic achievement of male and female gifted students exposed too Acceleration, Ability grouping and Control group.

The design employed the use of the 3×2 factorial matrix with the following variables: One Independent Variable (Instructional Strategy) at the three levels i.e, Acceleration, Ability grouping, and Conventional method for the control group. One Moderating Variable consists of male and female (Gender) and one Independent Variable, which is the Academic Achievement.

3.1 Procedure and Instrument

The participants went through eight (8) weeks of different sessions of English language through the instructional methods of Acceleration and Ability grouping. The lessons throughout the period based on the suitable types of each of the models for the targeted participants respectively. The study made use of three instruments, one for the purpose of identification and the remaining two as pre-test and post-test achievement tests.

Slocan's Intelligence Test (SIT) Revised Edition alongside Teachers' (TNC) Nomination Checklist was used to identify and provide information on IQ level of the participants. The participants' previous academic records for the previous three terms were obtained to ascertain the performance of the participants in English language.

3.2 Analysis of Data

The inferential statistics of ANCOVA (Analysis of Covariance) was used to test the stated null hypotheses at 0.05 level of significance. Also, the Multiple Classification Analysis (MCA) was used to determine the magnitude of the achievement of the various groups, t-test, using the Least Meant Square (LMS).

4. Results

HYPOTHESIS ONE: There was no significance difference in the academic achievement of gifted student exposed to Acceleration, Ability grouping, and Control group.

Table 1: *Summary of Analysis of Covariance on academic achievement of experimental groups and the control group*

Source	**Type iii Sum of square**	**DF**	**Mean Square**	**F**	**Sig**	**Eta Square**
Corrected model	264.436	6	44.073	16.876	.000	.656
Intercept	486.825	1	486.825	186.410	.000	.779
Rescore	80.486	1	80.486	30.819	.000	.368
Treatment	167.755	2	83.877	32.117	.000	.548
Gender	8.781	1	8.781	3.362	.072	.060
Treatment	0.614	2	0.307	0.118	0.889	.004
Error	138.414	53	2.612			
Total	5209.000	60				
Corrected total	402.850	59				

Table 1 showed the result of the experimental groups and control group. The experimental groups were compared with control group. Result revealed that there was a significance in the academic achievement of gifted students exposed to Acceleration, Ability grouping and Control group ($F_{(2,53)} = 32.12; P<0.05$, Eta Square = 0.548). On the basis of this finding, the null hypothesis one was rejected.

HYPOTHESIS TWO: There was no significance difference in the academic achievement of male and female gifted students exposed to the treatment models and the control group. This revealed that gender had no significance effect on participants post-test achievement scores of male gifted student in better (X= 80.83) than their female counterparts (X= 79.33), the difference, is however, not significant.

Table 2: *Multiple Classification Analysis of Post-test Scores by Treatment and Gender*

Variable Category	N	Unadjusted Deviation	ETA	Adjusted for factor and Covariance Deviation	BETA
Treatment					
1.00 Acceleration	23	10.5089		10.26	
2.00 Ability Grouping	22	9.8455	0.976	10.09	
3.00 Control Group	15	-23.5133		-28.54	
Gender					
1.00 Male	34	-0.5542	0.037	0.62	0.042
2.00 Female	26	0.7867		-0.88	
MULTIPLER = 0.979					

5. Discussion of Findings

It was obvious from the findings of this study that the two teaching learning models (Acceleration and Ability Grouping) were effective models in enhancing academic performance of the gifted students in Nigeria. They were more adequate and geared toward the specific academic needs of the participants. This was in accordance with the study conducted by Feldhusen and Moon (1995) that gifted students develop and build individualized educational programs. Hence, enhancing their academic achievement.

Similarly, this was supported by Kulik (1992) through five different grouping plans such as XYZ Classes, Cross-grade Grouping, Advance Placement and Accelerated Classes and Enrichment Programs.

Again the findings were in line with (Byrne, 1990, Ireson et al., 2001) that grouping by ability and acceleration as teaching learning models for the gifted developed self-concept, academic confidence of the gifted.

However, some scholars advocate against some teaching learning model for the gifted students. It worths saying that to combat the boredom sets in by conventional and/or monotonous methods of impacting knowledge contribute largely to underachievement.

In a related finding on learning models for the gifted students, Fakolade & Adeniyi (2010) concluded that most effective teaching learning strategies for the gifted should be the combination of the various models to form a comprehensive approach.

In lieu of the above, no teaching strategies are adequate and effective for the gifted than the educators, most importantly teachers of the gifted in heterogeneous classes who are equipped with the best skills to mentor/direct the innate potentials of the gifted. Teachers,

especially special educators in gifted and talented education should be up to the task to serving as pathfinders towards enhancing ingenuity, divergent reasoning and academic performance of gifted students through the application of some learning models (Acceleration and Ability-Grouping).

Therefore, the study concludes based on findings that the use of Acceleration and Ability-Grouping as teaching models to enhance the academic performance of gifted children in the whole Kwara State, Nigeria.

Furthermore, it would be of great assistance to boost the gifted and talented education through other teaching learning strategies specifically designed for the precocious ones to enhance academic performance of this target group in special education in Nigeria.

References

Adesokan, E.O. (1992) Developing the potential of the gifted and talented at home and at School.

Bloom, B.S. (Ed). (1985) Developing talent in young people. New York: Ballantine Books.

Byrne, B.N. (1990) "Self-concept and Academic Achievement: Investigating their Performance as Discriminators of academic Track Membership in High School" *Canadian journal of education* 15, (2), 173-182. http://dx.doi.org/10.2307/1495374

Clark, B. (1992) the integrative educational and model in J.S. Renaults system and models for developing programs for the gifted and talented. Mansfield Centre.

Fakolade, O.A and Adeniyi, S.O (2010).Efficacy of Enrichment triad and Self-direct Models on Academic Achievement of Gifted Students in Selected Secondary Schools in Nigeria. *International Journal of Special Education*. Volume 25. No 1.

Fatting and Taylor, (2008) in Educational Research Service: Differentiating Instruction to Help All Students Meet Standards, 2nd Edition.

Feldhusen, J.F. (1992). "Effect of programmes for the gifted: a search for evidence" in southern and jones, academic acceleration, pp. 133-147.

Feldhusen, J.F & Moon, S. (1995). The educational continuum and delivery of services, In J.L. Genshaft, Briefey, C.L. and Hollinger (eds) Serving Gifted and Talented Students: A resource of school personnel (pp. 103-121) Austin, Texas: PRO-ED Gardner, H. 1993. Frame of mind new York, Basic Book.

Ireson, J. Hallam, s , and Plewis, I (2001) ability grouping in English secondary schools: effects on attainment in English , mathematics and science: educational research and evaluation v.8, p. 299-318.

Jones, P.M.(1990) Psychosocial development in intellectually gifted children In E.D Horowitz.

Kulik, J.A. (1992) An analysis of the Research on Ability Grouping: Historical and Contemporary Perspectives, Storrs, Connecticut; National Research Centre on Gifted and Talented.

Liu, H.J. (2008) "The relationship between EFL students academic self-concept and language performance", Feng Chia *Journal of Humanities and Social Sciences*, 17, 165-184.

Liu, H.J. (2009) Exploring changes in Academic Self-concept in Ability-grouped English classes, Chang Gung, *Journal of Humanities and Social Sciences* 2:2 411-432.

Maker, C.J. (1994). Teaching Models in Education of the Gifted. Rockville MD, Aspen Ltd. Piirto, J. (1994). Talented children and adults: Their Development and Education. Englewood cliffs, N.J. merit/prentice. Hall.

Slosson, R.L. (1991) Slosson Intelligence Test and Manual (SIT-R) for children and adults. Aurora, Slosson Educational Incorporated.