

Effect of Jigsaw Teaching Method on the Performance of Senior Secondary School Students in Arabic Language in Ilorin Metropolis, Nigeria

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Abstract - This study examined the effect of jigsaw teaching method on students' performance in Arabic language in Upper Basic Schools in Ilorin Metropolis, Nigeria. This study is an experimental design of quasi-experimental. The study sample consisted of 80 students drawn from two sampled upper basic schools in Ilorin West and Ilorin East Local Government Areas of Kwara State. The schools were randomly assigned to treatment (40 students) and control (40 students) groups. Analysis of Covariance (ANCOVA) was used to analyse the data collected. The findings revealed that students taught using jigsaw method performed significantly better than their counterparts taught with the conventional method. Based on these findings, the following recommendations were made. The school administrators should provide a comfortable and relaxed school environment, such that students can be free to execute tutorials and group discussions for themselves. Teachers of Arabic should expose their students to jigsaw method as this will give students an avenue to have intellectual discussions with one another.

Keywords: Arabic, Teaching, Jigsaw method, Student Performance and Ilorin metropolis

INTRODUCTION

Learning is referred to as the act of acquiring new, or modifying and reinforcing existing knowledge, behaviours, skills, values or preferences which involve synthesizing different kinds of information. Human beings, animals and some other beings were blessed with the learning ability. James and Gardner [1] opined that learning is not compulsory but it is contextual which does not happen once but rests upon and shaped by what we know. Therefore, learning is viewed as a process, rather than a collective of factual and procedural knowledge. Wenger [2] noted that

learning produces changes in an organism and the changes produced are relatively permanent.

Learning methods refers to the view that different people learn information in different ways. Recently, concept of learning methods has steadily gained influence. The study describes the intense interest and discussion that the concept of learning methods has elicited among senior secondary school students in Arabic Language. Moreover, the concept of learning methods has wide acceptance among students, parents and general public. This is so because the learning methods are actively promoted by vendors offering different tests, assessment devices, and online technologies to assist educators identify their students' learning styles and adapt their instructional approaches accordingly [3].

Learning methods encompass a series of theories suggesting systematic differences in individuals' natural or habitual pattern of acquiring and processing information in learning situations. A core concept is that individuals differ in how they learn. The idea of individualized learning styles originated in the 1970s, and has greatly influenced education [4].

The Jigsaw technique is a method of organizing classroom activity that makes students depend on each other to succeed. It breaks a class into groups and breaks assignments into pieces that the group assembles to complete the puzzle. Jigsaw, one of the cooperative learning techniques, is based on group dynamics and social interactions. It is one of the pure cooperative learning techniques [5]. This technique, including two different treatments with different small groups in order to help learning and improve cooperation between students, was first designed by Aronson in 1978 [6].

Jigsaw technique can enhance cooperative learning by making each student responsible for teaching some of the materials to the group. In this

technique, students are members of two different groups, the “home group” and the “expert group.” Initially, students meet in their home groups, and each member of the home group is assigned a portion of the material to learn as an “expert” [7].

Jigsaw method allows students to participate in learning process. This is so by being constantly subjected to this method, they should feel more comfortable about the roles they play. Methods through which groups are evaluated aids the effectiveness of the jigsaw method by allowing each student have a sense of responsibility for their group’s performances [8].

This method allows each student to prepare a part of the assignment outside the classroom and later they turn to their groups then peer-teach other members with the same group. All groups can choose the same subject, and then different groups take different parts. The Groups are now charged to teach the subject in turn [9]. Jigsaw technique supports cooperative learning by giving each of the learners within the group the responsibility to teach a part of the subject. In this category, there are two different groups, ‘home group’ and ‘expert group’ [10]. The first group “home groups” separate within their members would join the second group “expert group” which members of home groups were assigned the same part of the material. Then students in the expert groups discuss the topic and ensure that all members of the group comprehend the topic/subject. Then students would return back to their groups where they will now teach the material to the group members [11].

When Jigsaw is to be used, students are separate from their original groups to form new groups with the other students who are charged to prepare the same subjects. These groups, are referred to as “groups of experts” they work to ensure that other students understand the subject; they plan how the subject would be taught to their colleague then prepare a report. They latter return to their own groups and teach their subjects to them with the assistance of the reports been prepared. After the students might have discussed in their various groups, teachers then perform some activities with individual student in groups or with the entire class to allow uniformity among the students. For example, the teacher assigns one of the home groups or a student to present their subject to the whole class, at the evaluation stage, the study is said to be completed by making the evaluation through the cooperative learning method [12].

Jigsaw is of various types that can be employed by the teachers in the classroom. In the year 1978 Aronson developed Jigsaw I and nine (9) years (1987) later Slavin [7] came up with Jigsaw II, while Jigsaw III was developed in 1994 by Stahl. Jigsaw IV was recently developed by Halliday in 2004. Jigsaw I, II and III differ because its only Jigsaw II and III that accommodate group competition, same is applicable to Jigsaw III. More so, Jigsaw III differs from Jigsaw I and II because the process in it is evaluated by forms. Jigsaw IV is different also differ from Jigsaw I, II, and III it accommodates quizzes within the students as a way of checking knowledge acquired by both expert and home groups and show the units that are has not been taught which latter added to the next instruction. Furthermore, Reverse Jigsaw was developed by Hedeem [6] in 2003 and the Subject Jigsaw was developed by Doymus [10] in 2007.

Students’ performance is the outcome of education, the extent to which a student, teacher or institution has attained their educational goals. Examinations, tests and continuous assessment are some of the tools employed by the teachers to determine the level of students’ performance. Despite that there is no agreement on how performance and which aspect is best tested are most important [13].

Students’ academic performance is monitored closely so as to early identify any student whose performance is likely to lead to academic failure. The examinations used in measuring the academic performance are used to provide academic guidance so as to maximize the chances of all students succeeding in various senior secondary school subjects. e Differences in the academic performance of the students have been related to the differences in the intelligence and personality. Students with higher mental ability as demonstrated by Intelligence Quotient (IQ) tests and those with higher in conscientiousness tend to achieve better in academic settings.

OBJECTIVES OF THE STUDY

The study aims to determine if there is any significant difference in the performance of students taught Arabic Language with Jigsaw teaching method and their counterparts taught with conventional method; if there is any significant difference in the performance of male students taught Arabic Language with Jigsaw and their counterparts taught without Jigsaw teaching method.

Hypotheses

The following hypotheses were tested:

HO₁: Significant difference does not exist between the performances of students taught Arabic Language with the Jigsaw teaching method and their counterparts taught with conventional method.

HO₂: Significant difference does not exist between the performances of male students taught Arabic Language with Jigsaw teaching method and their counterparts taught with conventional method.

METHODS

This study is an experimental research design of quasi experimental design inform of null-equivalent control group. The study resembles the pre-test, post-test control group null equivalent design, only that the non-equivalent control group design does not involve random assignment of subjects to groups.

Table 1: Research Layout

Group	Pre-test	Treatment	Post-test
Experimental	O ₁	x	O ₂
Control	O ₃		O ₄

Key:

- O₁= represent pre-test of experimental group
- O₂= represent post-test of the experimental group
- X = represent treatment for experimental group
- O₃= represent pre-test of the control group
- O₄= represent post-test of the control group
- No treatment for control group.

Table 1 shows both the experimental and the control group. Students in the groups were pre-tested through the Arabic Language Performance Test prepared by the researcher. The experimental group was taught with Jigsaw teaching method while the control group was taught with conventional method. After the fifth weeks all the groups were tested using the same questions for the post-test. The researcher used Arabic Language Performance Test (ALPT) to determine the effect of Jigsaw teaching method on the performance of students in Arabic Language. (ALPT) is a multiple choice form test which contains 50 items with four options (A-D).

Teaching package include lesson plan for the topics where Jigsaw is used to teach experimental group while conventional method. The researcher guides the teacher taking experimental group on how to go about the method. The teacher taking control group was not guided but asked to teach the students as normal class.

Both the pre-test and post-test were validated by the Arabic educators and experts in Measurement and Evaluation in the Department of Social Sciences Education, faculty of Education, University of Ilorin. Test re-test method was employed to ensure the reliability of the instrument using Pearson Product Moment Correlation coefficient of 0.67 at 0.05 level of significance.

Sample

The sample for the study is 80 upper basic school students drawn from two secondary schools in Ilorin - West and Ilorin –East Local Government Area, Kwara State, Nigeria participated in the study. Purposive Sampling techniques was used to select forty (40) students from each of the two school sampled.

RESULTS

Demographical Characteristics of the Respondents

This section describes personal information of the participants (Secondary School Students) using frequency and percentage. Results are shown below:

Table 2. Group and Gender of the Students in Arabic Language

Variables	Characteristics	No of Students	%
Groups	Experimental	40	50
	Control	40	50
	Total	80	100
Gender	Male	39	48.7
	Female	41	51.3
	Total	80	100

Table 2 indicates that out of the 80 respondents, 40 (50%) of the students were in experimental group while 40 (50%) of the said number were from the control group. Furthermore, out of the 80 students, 39 (48.7%) were males while 41 (51.3%) were females.

Hypotheses Testing

Ho₁: *Significant difference does not exist between the performance of students taught Arabic Language with Jigsaw and their counterparts taught without Jigsaw teaching method.*

In order to test this hypothesis, scores of the students in both experimental and control groups in Arabic Language Performance Test (ALPT) were collated and subjected to Analysis of Co-variance as shown in Table 3.

Table 3. Performance of Students (Experimental and Control Group) in Arabic Language

Source	Type III Sum of Squares	df	Mean Square	f-value	Sig.
Corrected model	3390.874 ^a	2	1695.437	16.303	0.00
Intercept	11584.877	1	11584.877	111.395	0.00
Pre-test	10.874	1	10.874	.105	.747
Groups	3216.346	1	3216.346	30.927	.000
Error	8007.876	77	103.998		
Total	124650.000	80			
Corrected Total	11398.750	79			

R. Squared = .297 (Adjusted R Squared = .279); p < 0.05

The table shows that calculated F-value is 30.927 with degree of freedom 1:79 P-value of 0.005. Since calculated level of sig. (0.000) is less than P-value (0.05) computed at P- value 0.05 therefore, hypothesis 1 is not accepted. This implies that there is a significant difference in the performance of students taught Arabic Language with Jigsaw and their counterparts taught without Jigsaw. This favour the experimental group with the mean score of 44.1250 compare to (31.1250) control group score.

Ho₂: *Significant difference does not exist between the performance of male and female students who learnt Arabic Language with Jigsaw and their counterparts taught with the conventional method.*

In order to test hypothesis 2, the responses of the participants (male and female) in both experimental and control groups in the Arabic Language Performance Test (ALPT) were collated and subjected to Analysis of Co-variance.

Table 4 reveals that the calculated F value 30.927 with degree of freedom 1:79 computed at the P- value of 0.05. Since the calculated level of significance (0.000) is less than P-value (0.05) therefore, hypothesis 2 is not accepted. This implies that there is

a significant effect of gender on the performance of male and female students taught Arabic Language with Jigsaw and their counterparts taught without jigsaw. This result favors female students with the mean score of 44.1250 greater than (31.1250) male score.

Table 4: Performance of Male and Female Students in Arabic Language

Source	Type III Sum of Squares	df	Mean Square	f-value	Sig.
Corrected model	3390.874 ^a	2	1695.437	16.303	.000
Intercept	11584.877	1	11584.877	111.395	.000
Pre-test	10.874	1	10.874	.105	.747
Gender	3216.346	1	3216.346	30.927	.000
Error	8007.876	77	103.998		
Total	124650.000	80			
Corrected Total	11398.750	79			

a. R Square = .297 (Adjusted R Squared = .279). p < 0.05

DISCUSSION

This study examined the effect of Jigsaw teaching method on the performance of Senior Secondary School Students in Arabic Language in Ilorin Metropolis. The finding of this study showed that significant difference exists between the performance of students taught Arabic Language with Jigsaw and those taught with the conventional method. This is because students enjoy studying with their peers and due to this, their performances increases. This assertion is in consonance with Johnson and Johnson [14] and Ural [15] opined that assure better performance among students structured cooperative should be encouraged give room for competitive environments in learning and transferring knowledge and concepts. Similarly, the study is in line with Bafile's [16] who opined that since students were together in the group inferiority or feeling shy would be minimized, freedom of expression would be welcomed. In the same vein, Hanze and Berger [17] discovered that Jigsaw teaching method focused on learning experiences Intrinsic motivation, Cognitive activation, Interest and involvement in the lesson than when using the conventional method to teach.

It was also discovered that significant gender difference exists in the performance of male and female students taught Arabic Language with Jigsaw and their counterparts taught with conventional method. Both male and female

performed equally. This finding agrees with Eagly's [18] who observed that males and females learn the appropriate behaviours and attitudes from the family and overall culture they grow up with, which may either affect or influence gender academic performances generally. The implication of this is that both males and females may perform excellently well or worse depending on their background and culture.

CONCLUSION AND RECOMMENDATION

This study assessed the effect of Jigsaw method of teaching on the performance of senior secondary school students' performance in Arabic Language in Ilorin metropolis. It was observed that students' performance in Arabic Language is fluctuating despite it is relevant as language of Islam and interaction with the Arabs in particular or with the Arabic speakers in general and specifically the language of Islam. The major causes of the poor performance is attributed to inappropriate teaching approaches, techniques and methods employed by Arabic teachers forgotten that it's a foreign language. It is against this back drop that this study is conducted to investigate the effect of jigsaw method on the performance of students in Arabic Language.

Significant difference exists in the performance of secondary school students taught Arabic Language with Jigsaw teaching method and those taught with conventional method. This favour the experimental group taught Arabic Language with Jigsaw.

Significant gender difference exists in the performance of male and female students taught Arabic Language with Jigsaw teaching method and their counterparts taught with conventional method.

This study has contributed to knowledge in the area of methods to be employed while teaching Arabic Language revealed that Jigsaw provide room for interaction and enhance students' performance in Arabic Language. Therefore, Jigsaw teaching method can improve the performance of the students either male or female who have been performing poorly in Arabic Language.

It is recommended that School administrators should provide a comfortable and relaxed school environment, such that student can be free to execute tutorials and group discussions for themselves. They should also encourage the students to participate in intellectual discussions without intimidation. Proper conduct and professional academic procedure should be maintained by the teacher in the class. However, teachers should give their students an avenue to have

intellectual discussions with one another. More so, they should note that the students must be divided and mixed up to avoid disadvantaged group or perceived segregation. Interest is the determining factor for any personal achievement in every human endeavor in life. Students are therefore encouraged to develop positive attitudes towards learning the subject as well try to discuss scholastic matters during their free periods in school and even in informal settings like on social media. This would enhance a flow of knowledge between and among students.

Government should make available various forms of visual resources for teaching the subject so that instructional objectives of Arabic teaching in the upper basic schools can be achieved. The textbook writers should ensure that they include exercises that involve groups of students rather than just individuals. This would undoubtedly promote team-work and project the theme of Jigsaw technique. The curriculum planners are advised to infuse group oriented academic topics into the curriculum so that Jigsaw can become an academic culture of the students.

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