

**EFFECTS OF JIGSAW II AND STUDENTS' TEAM-
ACHIEVEMENT DIVISION ON PERFORMANCE IN
SECONDARY SCHOOLS ECONOMICS IN OKENE**

BY

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DEVELOPMENT**

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CERTIFICATION

This is to certify that this study was carried out by VICTOR-AKINYEMI, Helen Bidemi and has been read and approved as meeting part of the requirements of the Department of Social Sciences Education, Faculty of Education, University of Ilorin, Ilorin, Nigeria for the award of the Doctor of Philosophy (Ph.D.) Degree in Curriculum Development.

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DEDICATION

“And no man taketh this honour unto himself...” Heb. 5:4.

This project work is dedicated to God Almighty for grace, power and wisdom granted unto me for the successful completion of this programme.

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ABSTRACT

The knowledge of Economics plays a vital role in fostering societal development. In spite of its importance, only few students who took Senior Secondary Certificate Examinations consistently have grade C and above each year. This performance has been traced majorly to the use of teacher centered strategies. This study aimed at determining the effects of Jigsaw II and Students' Team-Achievement Division (STAD) on secondary schools students' academic performance in Economics in Okene. The objectives were to: (i) investigate academic performance of students in Economics; (ii) examine the effect of Jigsaw II instructional strategy; (iii) examine the effect of STAD instructional strategy; (iv) determine the effects of Jigsaw II and STAD instructional strategies; and (v) determine the interactive effect of gender and instructional strategies on students' academic performance in Economics in Okene, Nigeria.

The design adopted for the study was a pre-test post-test, control group quasi-experimental design. The population of the study was all public senior secondary school in Okene while the target population was students offering Economics. Using the simple random technique, three schools in Okene were drawn after which SS II students were purposely sampled for the experiment. The instrument for the study was an Economics Performance Test which was face and content validated through expert judgment. Its reliability was determined using parallel forms reliability statistics with a reliability coefficient of 0.82. Research questions were analysed using descriptive statistics of mean ($\bar{x}$) and skewness while the hypotheses were tested using ANCOVA at 0.05 level of significance.

The findings of the study were that:

- (i) academic performance of students in Economics was above average with $\bar{x} = 50.68$ (Jigsaw II) and 77.14 (STAD) while skewness = -0.85 (Jigsaw II) and -0.03 (STAD);
- (ii) Jigsaw II had a significant effect on Secondary School students' academic performance in Economics $F(1, 77.75) = 0.00, p < .05$. Students in Jigsaw II treatments performed better than their counterparts in the control group;
- (iii) STAD had a significant effect on Secondary School students' academic performance in Economics $F(1, 286.47) = 0.00, P < .05$. Students in STAD treatments performed better than their counterparts in the control group;
- (iv) Jigsaw II and STAD had significant effect on Secondary School students' academic performance in Economics $F(2, 172.52) = 0.00, P < .05$; favouring students in STAD group and as such, the most effective of the experimental treatments; and
- (v) there was no significant interaction effect of gender and treatments on Secondary School students' academic performance in Economics.

The study concluded that Jigsaw II and STAD is effective for improving students' academic performance in Economics. This implies that learner-centered strategy can complement other strategies to enhance teaching-learning effectiveness in Economics. The study therefore recommended that teachers should use STAD and Jigsaw II in teaching Economics, authors should make for more learner centered activities in Economics textbooks while school administrators should map-out incentives as well as recognition for teachers who go beyond

the traditional method of teaching in implementing the secondary school Economics curriculum among others.

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APPENDIX I
ECONOMICS PERFORMANCE TEST (PRETEST)

NAME OF SCHOOL: ----- GENDER: MALE () FEMALE () CLASS: -----

1. One of the criticisms of population increase is that it results in (a) rise in people's standard of living (b) low level of illiteracy (c) low level of taxation (d) increase in government expenditure
2. In Economics, the reward for labour is in form of (a) wages (b) profit (c) rent (d) dividends
3. When death rate for old people and infants' mortality rate are high, with no migration, there will be in the population a higher number of (a) younger people in the population (b) children in the population (c) old people in the population (d) women in the population
4. One of these will not increase population of a country? (a) an increase in birth rate (b) a decrease in death rate (c) better medical services (d) emigration
5. The power of trade unions may be weakened where there is (a) reduced labour force (b) rise in price of commodities (c) reduced infrastructure (d) neglect of agriculture
6. A major effect of aging population is (a) population increase in arithmetic progression while food production increased in geometric progression (b) population increase in geometric progression while food production increased in arithmetic progression (c) population and food growth rate will, in the future be at par (d) nations have to get enough man power to cultivate available land for food
7. Natural growth rate is determine by (a) summation of birth rate and death rate (b) summation of birth rate and net migration rate (c) birth rate minus the death rate (d) birth rate divided by the net immigration
8. The productivity of labour does not depend on only on its own efforts and efficiency, but also on I. the level of technical knowledge II. The quality of other factors III. Racial qualities which allow persons from certain races to have good physique and be very good-looking. One of these is correct (a) I only (b) I and II only (c) I and III only (d) II and III only
9. One of these will not escalate the inhabitants of a Nation (a) an upsurge in birth rate (b) a reduction in death rate (c) emigration (d) immigration
10. It is essential to use which system of production when a country has huge work force (a) labour intensive (b) mechanically intensive (c) capital intensive (d) land intensive
11. One of these can determine of rate of population growth? (a) birth rate, immigration and death rate (b) birth rate, death rate and emigration (c) death rate, birth rate and net migration (d) migration, large families and birth rate
12. One of is the appropriate working age in Nigeria? (a) 1 - 15 (b) 15 - 65 (c) 30 - 40 (d) 40 – 65

13. A process where population are grouped into female and male is called (a) geographical distribution (b) man-woman distribution (c) age distribution (d) sex distribution
14. One of these is the main reason why wages differ among occupations (a) length and cost of training (b) supply of labour (c) attractiveness of the job (d) influence of trade unions
15. Census figures in most African countries are inaccurate because of (a) low cost of enumeration (b) low per capita income (c) high degree of illiteracy (d) high level of civilisation
16. Disguised unemployment (a) is a statistical artifact with no economic meaning (b) can be eliminated if the capital output ratio is increased (c) can be eliminated if the press is free (d) exist when manpower is not utilized efficiently.
17. The effect of emigration on a country's population, all other things remaining constant is to (a) increase its size (b) cause over population (c) increase its growth rate (d) reduce its size
18. West African countries experience rapid population growth due to (a) existence of birth control clinics (b) early marriage (c) adequate sex education in schools (d) late marriage
19. One of these is not a reason why people migrate from one place to another? (a) to find job and improve their standard of living (b) To live in a more suitable climate (c) For the sake of change and adventure (d) To escape from a religious, political or social situation in a country

10-15	16-35	36-60	61 and above
10,000	3,000	5,000	2,000

20. Age distribution table:

The above table shows the age distribution of a town in Nigeria. What is the dependency ratio of the town?

- (a) 10:3 (b) 2:1 (c) 3:2 (d) 4:3
21. The occupational distribution of population in most West African countries shows the highest concentration in (a) agricultural and allied industries (b) mining and manufacturing (c) the distributive trade (d) commerce and industry
22. one of these is not an advantage of division of labour? (a) it saves time (b) makes possible the use of machines (c) it is monotonous (d) leads to specialisation
23. A Nation with a working population that is insufficient to exploit its resources is said to be (a) over-populated (b) under-populated (c) experiencing decreasing population (d) experiencing increasing population
24. One of these is not an advantage of division of labour? (a) it saves time (b) makes possible the use of machines (c) it is monotonous (d) leads to specialization
25. The occupational distribution of population in most West African countries shows the highest concentration in (a) agricultural and allied industries (b) mining and manufacturing (c) the distributive trade (d) commerce and industry

26. One of these is not required in the use of information from census? (a) allocation of central government revenue among states or regions (b) planning for development in states or regions (c) demarcating constituencies for election in states or regions
29. At optimal population level, a country has its (a) maximum population (b) aging population (c) highest birth rate (d) highest output per head
30. The process that leads to agreement of service between employers and employee is termed (a) salary negotiations (b) arbitration (c) collective bargaining (d) conciliation
31. One of the factors that influence the Job distribution of a population is? (a) social factors (b) economic factors (c) religious factors (d) geographical factors
32. One of these decides a country's population size? I. Birth rate II. Death rate III. Migration rate IV. Unemployment rate (a) I, II and IV (b) II and IV (c) I, II and III (d) I and IV
- 33.
36. One of these is not correct? (a) population refers to the number of people living in a place (b) population of a place is not fixed (c) population is decided through census (d) population is decided by the volume of money in circulation
37. The number of people who are qualified to work and who offer themselves for employment are called (a) migrant labour (b) working population (c) labour turnover (d) mobility of labour
38. Age distribution is important because it helps government to (a) check rural-urban drift (b) to know figure of non-nationals (c) to know the figures of factories (d) undertake effective planning
39. Productivity per worker is best measured by (a) total output less number of workers (b) total output multiplied by number of workers (c) number of workers less total output (d) total output divided number of workers
40. Hassan, an Economic teacher in Lagos, resigned his appointment and took up a new work in the bank. What is discussed here is considered to be (a) vertical mobility of labour (b) geographical mobility of labour (c) occupational mobility of labour (d) horizontal mobility of labour
41. Net migration is the difference between (a) population and census (b) immigrants and emigrants (c) per capita income and population (d) internal and external migration
42. Unemployment that arises due to the introduction of new machines and equipment in production is called (a) cyclical (b) structural (c) seasonal (d) disguised
43. A nation with aged population, the aggregate population is made up of (a) young graduate (b) women (c) is increasing at a low rate (d) has gotten to optimum level
44. An increasing Population can be regulated by all these with the exception of (a) family planning (b) limiting number of children per family (c) legalizing abortion (d) incentive on immigration
45. Joblessness connected to decline in demand is well-known as (a) functional (b) disguised (c) cyclical (d) imposed

46. The efficiency of a countries labour force depends on all the following except (a) improved working conditions (b) better health care facilities (c) adequate training (d) frequent strikes and lock-outs
47. Which of these best explains the Malthusian theory of population? (a) increase in production cause hunger and death (b) population increases faster than food supply (c) population grows at arithmetic progression while food production grows at geometric progression (d) people could be sent to “no man’s land” when the population increases
48. Mobility of labour is not affected by (a) the optimum size of population (b) as marriage and family (c) the regulation of trade unions (d) the period of training
49. The movement of a worker from one grade to another within the same industry is a kind of mobility of labour which is (a) geographical (b) vertical (c) occupational (d) horizontal
50. One of these is not expected to be an effect of a growing population (a) rise in demand (b) unemployment(c) fall in standard of living (d) higher per capita income

MARKING GUIDE FOR ECONOMICS PERFORMANCE TEST PRE-TEST

No.	Ans.	No.	Ans.	No.	Ans.	No.	Ans.	No.	Ans.
1	D	11	C	21	A	31	A	41	B
2	A	12	B	22	D	32	C	42	B
3	A	13	B	23	C	33	A	43	C
4	D	14	A	24	B	34	C	44	B
5	A	15	C	25	D	35	C	45	D
6	B	16	D	26	C	36	D	46	D
7	C	17	D	27	A	37	B	47	B
8	B	18	B	28	D	38	D	48	A
9	C	19	C	29	D	39	D	49	B
10	C	20	C	30	C	40	A	50	D

APPENDIX II

ECONOMICS PERFORMANCE TEST (EPT-POSTTEST)

NAME OF SCHOOL: ----- GENDER: MALE () FEMALE () CLASS: -----

1. One these is not expected to be an effect of a growing population (a) rise in demand (b) unemployment (c) fall in standard of living (d) higher per capita income

Age distribution table:

10-15	16-35	36-60	61 and above
10,000	3,000	5,000	2,000

2. The above table shows the age distribution of a town in Nigeria. What is the dependency ratio of the town? (a) 10:3 (b) 2:1 (c) 3:2 (d) 4:3
3. Which of these best explains the Malthusian theory of population? (a) increase in production cause hunger and death (b) population increases faster than food supply (c) population grows at arithmetic progression while food production grows at geometric progression (d) people could be sent to “no man’s land” when the population increases
4. Mobility of labour is not affected by (a) the optimum size of population (b) as marriage and family (c) the regulation of trade unions (d) the period of training
5. The movement of a worker from one grade to another within the same industry is a form of mobility of labour which is (a) geographical (b) vertical (c) occupational (d) horizontal
6. One of these is not correct? (a) population refers to the number of people living in a place (b) population of a place is not static (c) population is known through a census (d) population is affected by the amount of money in circulation
7. A process where population are grouped into female and male is called (a) geographical distribution (b) man-woman distribution (c) age distribution (d) sex distribution
8. One of these is the utmost reason why wages differ among occupations (a) length and cost of training (b) supply of labour (c) attractiveness of the job (d) influence of trade unions
9. Census figures in most African countries are inaccurate because of (a) low cost of enumeration (b) low per capita income (c) high degree of illiteracy (d) high level of civilization
10. It is essential to use which system of production when a country has huge work force (a) labour intensive (b) mechanically intensive (c) capital intensive (d) land intensive
11. One of these are the determinants of the rate of population growth? (a) birth rate, immigration and death rate (b) birth rate, death rate and emigration (c) death rate, birth rate and net migration (d) migration, large families and birth rate

12. Disguised unemployment (a) is a statistical artifact with no economic meaning (b) can be eliminated if the capital output ratio is increased (c) can be eliminated if the press is free (d) exist when manpower is not utilized efficiently.
13. The effect of emigration on a country's population, all other things remaining constant is to (a) increase its size (b) cause over population (c) increase its growth rate (d) reduce its size
14. West African countries experience rapid population growth due to (a) existence of birth control clinics (b) early marriage (c) adequate sex education in schools (d) late marriage
15. One of these is not a reason why people migrate from one place to another? (a) to find job and improve their standard of living (b) To live in a more suitable climate (c) For the sake of change and adventure (d) To escape from a religious, political or social situation in a country
16. one of these is not the appropriate working age in Nigeria? (a) 1 - 15 (b) 15 - 65 (c) 30 - 40 (d) 40 - 65
17. Natural growth rate is determine by (a) summation of birth rate and death rate (b) summation of birth rate and net migration rate (c) birth rate minus the death rate (d) birth rate divided by the net immigration
18. The productivity of labour does not depend on only on its own efforts and efficiency, but also on I. the level of technical knowledge II. The quality of other factors III. Racial qualities which allow persons from certain races to have good physique and be very be very good-looking. One of these is correct (a) I only (b) I and II only (c) I and III only (d) II and III only
19. One of these will not increase population of a country? (a) an increase in birth rate (b) a decrease in death rate (c) better medical services (d) emigration
20. In Economics, the reward for labour is in form of (a) wages (b) profit (c) rent (d) dividends
21. A Nation with a working population that is insufficient to exploit its resources is said to be (a) over-populated (b) under-populated (c) experiencing decreasing population (d) experiencing increasing population
- 22.
23. One of these is not an advantage of division of labour? (a) it saves time (b) makes possible the use of machines (c) it is monotonous (d) leads to specialization
24. The occupational distribution of population in most West African countries shows the highest concentration in (a) agricultural and allied industries (b) mining and manufacturing (c) the distributive trade (d) commerce and industry
25. The growth rate of population is the (a) annual increase in population (b) total population of a country at a given time (c) addition to the total population over a given period (d) percentage increase in population over a given year.
26. A situation of full employment exists when (a) every adult is employed (b) all adults who can work are employed (c) all persons who have reached 15 years of age and above are employed (d) all those who are able and eligible to work are employed.
27. The difference between the number of immigrants and emigrants is (a) internal mobility (b) internal migration (c) net migration (d) marginal migration

28. One of these is not require the use of information from census? (a) allocation of central government revenue among states or regions (b) planning for development in states or regions (c) demarcating constituencies for election in states or regions (d) controlling geographical mobility of labour among states or regions.
29. At optimal population level, a country has its (a) maximum population (b) aging population (c) highest birth rate(d) highest output per head
30. The process that leads to agreement of service between employers and employee is termed (a) salary negotiations(b) arbitration (c) collective bargaining (d) conciliation
31. Joblessness connected to decline in demand is well-known as (a) functional (b) disguised (c) cyclical (d) imposed.
32. The efficiency of a countries labour force depends on all the following except (a) improved working conditions(b) better health care facilities (c) adequate training (d) frequent strikes and lock-outs
33. When death rate for old people and infant mortality rate are high, with no migration, there will be in the population a higher number of (a) younger people in the population (b) children in the population (c) old people in the population(d) women in the population
34. One of these will not increase population of a country? (a) an increase in birth rate (b) a decrease in death rate (c) better medical services (d) emigration
35. The power of trade unions may be weakened where there is (a) reduced labour force (b) rise in price of commodities(c) reduced infrastructure (d) neglect of agriculture
36. A major effect of aging population is (a) population increase in arithmetic progression while food production increased in geometric progression (b) population increase in geometric progression while food production increased in arithmetic progression (c) population and food growth rate will, in the future be at par (d) nations have to get enough man power to cultivate available land for food
37. The figure of people who are qualified to work and who offer themselves for employment are called (a) migrant labour (b) working population (c) labour turnover (d) mobility of labour
38. Age distribution is important because it helps government to (a) check rural-urban drift (b) decide the figure of non-nationals (c) decide the figure of factories (d) undertake effective planning
39. Productivity per worker is best measured by (a) total output less number of workers (b) total output multiplied by number of workers (c) number of workers less total output (d) total output divided number of workers
40. One of the factors that influence the Job distribution of a population is? (a) social factors (b) economic factors (c) religious factors (d) geographical factors
41. one of these decides the mass of a country's population? I. Birth rate II. Death rate III. Migration rate IV. Unemployment rate (a) I, II and IV (b) II and IV (c) I, II and III (d) I and IV
42. The supply of labour can be influenced by the (a) size of the population (b) stage of economic development (c) size of the country (d) extent of the market
45. Hassan, an Economic teacher in Lagos, resigned his appointment and took up a new work in the bank. What discuss here is consider to be (a) vertical mobility of labour

- (b) geographical mobility of labour (c) occupational mobility of labour (d) horizontal mobility of labour
46. Net migration is the difference between (a) population and census (b) immigrants and emigrants (c) per capita income and population (d) internal and external migration
47. Unemployment that arises due to the introduction of new machines and equipment in production is called (a) cyclical (b) structural (c) seasonal (d) disguised
48. A nation with aged population, the aggregate population is made up of (a) young graduate (b) women (c) is increasing at a low rate (d) has gotten to optimum level
49. An increasing Population can be regulated by all these with the exception of (a) family planning (b) limiting number of children per family (c) legalizing abortion (d) incentive on immigration
50. One of the criticisms of population increase is that it results in (a) rise in people's standard of living (b) low level of illiteracy (c) low level of taxation (d) increase in government expenditure

MARKING GUIDE FOR ECONOMICS PERFORMANCE TEST POST-TEST

No.	Ans.	No.	Ans.	No.	Ans.	No.	Ans.	No.	Ans.
1	D	11	C	21	B	31	D	41	C
2	C	12	D	22	D	32	D	42	A
3	B	13	D	23	C	33	A	43	C
4	A	14	B	24	A	34	D	44	C
5	B	15	C	25	D	35	A	45	A
6	D	16	B	26	D	36	B	46	B
7	C	17	C	27	C	37	B	47	B
8	A	18	B	28	D	38	D	48	C
9	C	19	C	29	D	39	D	49	B
10	C	20	A	30	C	40	A	50	D

APPENDIX III
TEACHING PACKAGE FOR EXPERIMENTAL GROUP 1
(JIGSAW II INSTRUCTIONAL STRATEGY)

LESSON I

School:

Class: Senior Secondary School Two (SSS II)

Topic: POPULATION

Duration: 90 minutes

Instructional Materials: A chart showing the demography of Kogi state.

Entry Behaviour: Students already have an idea of the population estimate of Nigeria.

Behavioral Objectives: At the end of the lesson through Jigsaw teaching strategy, it is hoped that the students should be able to:

- a. define population
- b. explain population census
- c. differentiate between population and population census
- d. make a list of determinants of population size and growth

Stage	Teacher's Activities	Students' Activities	Duration
Stage 1 Introduction	The teacher introduced the lesson of the day as the meaning of population to the students in their Home group. He also described to the students the steps involved in the instructional strategy to be used as follows: a. Students begin in their home group; all students receive all information rather than only information relevant to the part of the topic.	Students listen attentively while still in the Home group.	10 minutes

	i. teacher divided the students into heterogeneous groups of 5 to 6 persons based on each sub-topic and taught each group accordingly in order to make experts of each groups. ii. The students brainstorm on the sub-topic given to them in their various expert groups. They jointly come up with relevant ideas and harmonise same within the groups. iii. Students return to their respective home groups and teach their group mates what they learnt from their expert groups. Students take quiz or work together on task that will involve all the different parts of the topic		
Stage 2	Teacher divided the students into heterogeneous groups of 5 to 6 persons based on each sub-topic; namely population, population census and population size & growth. He then taught each group accordingly in order to make experts of each groups.	Students in every of the Expert groups pay attention to the teacher.	25minutes
Stage 3	When every of the expert groups was busy interacting, the teacher went round to monitor their activities.	v. The students brainstorm on the sub-topic given to them in their various expert groups. They jointly come up with	25 Minutes

		relevant ideas and harmonizes same within the groups.	
Stage 4	The teacher organizes the students back to their Home groups. This is done quietly and in a coordinated manner.	The students share the knowledge gained in the Expert groups, look into them critically to see if it really fall in line with what they are to learn in the study.	5minutes
Stage 5 Evaluation	The teacher gives quiz to the students	The students answer the quiz	20minutes
Stage 6 Conclusion	The teacher sum up the lesson	The students note their strengths and weaknesses	5 minutes
Assignment	The teacher asked the students to state the merit and demerit of large population.	The students jot down the assignment	

APPENDIX IV
TEACHING PACAKAGE FOR EXPERIMENTAL GROUP 2
(STUDENT TEAMS-ACHIEVEMENT DIVISION TEACHING STRATEGY)

LESSON I

School:.....

Class: Senior Secondary School Two (SSS II)

Topic: POPULATION

Duration: 90 minutes

Instructional Materials: A chart showing the demography of Kogi state.

Entry Behaviour: Students already have an idea of the population estimate of Nigeria.

Behavioural Objectives: At the end of the lesson through Jigsaw teaching strategy, it is hoped that the students should be able to:

- i. define population
- ii. explain population census
- iii. differentiate between population and population census
- iv. make a list of determinants of population size and growth

Stages	Teachers activities	Student activities	Duration
Stage 1 Presentation	The teacher first introduce the introduced the lesson before they started cooperating by further explain to them the five steps involved (1) step 1:class presentation: where the teacher explain the topic .(2) step 2:Formation of groups,: student start to work in group on the task given to accomplish a common goal.(3) Quizzes: students	The students listen and watch how the teacher presents the lesson.	25 minutes

	take individual quizzes, learner's are not allowed to assist each other during the test.(4): individual improvement: individual improvement scores are gained to see whether students have improved according to their past performance and how much they have improved.(5):Team recognition: group may win certificate or other kind of other kind of reward if there is. After explaining the steps involved, the teacher presents the subject matter by defining the concept of population to the whole students in the class. Teacher defines population as the total number of people living in a country or geographical area and population census as the head count of all nationals of a country at a particular time. Characteristics of a good population census include: physical counting of people rather than by proxy. Conducting the population census at the same time throughout the country etc. Types of population census are Defacto and De jure population census. The teacher clarifies the determinants of population size and growth as follows: - birth rate - death rate migration.		
Stage 2	The teacher organizes the students into groups whose	The students work collaboratively in their	25 minutes

	members are heterogeneous to discuss the lesson being taught.	groups in order to accomplish the shared goals.	
Stage 3 Evaluation	The teacher administers quizzes to measure learning achievement.	The students take individual quizzes and are not allowed to assist one another during the test.	20 minutes
Stage 4	The teacher goes round to take note of activities in various teams and award scores individually and collectively as a team. He sees to their levels of improvement.	The students watch keenly	5 minutes
Stage 5	Teacher recognizes teams that perform well and appraise them with awards.	Students watch and get encouraged and motivated.	10 minutes
Stage 6 Conclusion	The teacher sum up the lesson	The students note their strengths and weaknesses	5 minutes
Assignment:	The teacher asked the student to mention the advantages and disadvantages of large population.	The students copy the assignment	

LESSON II

School:.....

Class: Senior Secondary School Two (SSS II)

Topic: POPULATION

Sub Topic: Population Density, Ageing Population, merit and demerit of large population.

Duration: 80 minutes

Instructional Materials: A chart showing the demography of Kogi state.

Entry Behaviour: Students already have an idea of the definition of population and population census.

Behavioural Objectives: At the end of the lesson through Jigsaw teaching strategy, the students should be able to:

- i. compare population density of some geographical areas
- ii. illustrate an ageing population
- iii. evaluate the implications of a large population

Stages	Teachers activities	Student activities	Duration
Stage 1 Presentation	The teacher defines population density to the students as the number of persons per square kilometer of land. Population density may be high or low depending on a number of people in a specific area or country. While ageing population is defined as a declining population with an increasing percentage of old people. Advantages of large population include: Large Labour: High population provides large labour force for the industries. Large	The students listen and watch how the teacher presents the lesson.	25 min

	Market: High population is a source of large market for the goods produced by the industries. Urbanization: Areas of large population do lead to urbanisation etc. Conversely, the disadvantages are pressure on natural resources, insufficient food, unemployment etc.		
Stage 2	The teacher organizes the students into groups whose members are heterogeneous to discuss the lesson being taught.	The students work collaboratively in their groups in order to accomplish the shared goals.	25 min
Stage 3	The teacher administers quizzes to measure learning achievement.	The students take individual quizzes and are not allowed to assist one another during the test.	20 minutes
Stage 4	The teacher goes round to take note of activities in various teams and award scores individually and collectively as a team. He sees to their levels of improvement.	The students watch keenly	5 min
Stage 5	Teacher recognises teams that perform well and appraise them with awards.	Students watch and get encouraged and motivated.	10 minutes
Stage 6 Conclusio	The teacher recapitulates the lesson	The students note their strengths and weaknesses	5minutes
Assignment:	The teacher asked the students to Differentiate between Malthusian Population Theory and Demographic Transition Theory	The students copied the assignments	

LESSON III

School:.....

Class: Senior Secondary School Two (SSS II)

Topic: POPULATION

Sub Topic: Over-population, Under-population, Optimal Population, Malthusian population theory and Demographic transition theory.

Duration: 90 minutes

Instructional Materials: A card board showing types of population.

Entry Behaviour: Students have knowledge about ageing population, large population and population density.

Behavioural Objectives: At the completion of the lesson, the students should be able to:

- i. distinguish between overpopulation and under-population
- ii. define optimal population
- iii. defend and criticize Malthusian population theory and Demographic transition theory.

Stages	Teachers activities	Student activities	Duration
Stage 1 Presentation	The teacher defines over-population to the students as a situation where a country has more people than it physical and human resources can support with adequate living standards. While under-population may be defined as a type of population that is less than the available resources of a country. Optimum population can be defined as a type of population which when combined with the available resources and the given level of existing technology secure a maximum return per head. The teacher further explains Malthusian population theory and Demographic transition theory.	The students listen and watch how the teacher presents the lesson.	25 min
Stage 2	The teacher organizes the students into groups whose members are heterogeneous to discuss the lesson being taught.	The students work collaboratively in their groups in order to accomplish the shared goals.	25 min

Stage 3 Evaluation	The teacher administers quizzes to measure learning achievement.	The students take individual quizzes and are not allowed to assist one another during the test.	20 minutes
Stage 4	The teacher goes round to take note of activities in various teams and award scores individually and collectively as a team. He sees to their levels of improvement.	Students watch keenly	5 min
Stage 5	Teacher recognises teams that perform well and appraise them with awards.	Students watch and get encouraged and motivated.	10min
Stage 6 Conclusion	The teacher recapitulates the lesson	The students note their strengths and weaknesses	5 minutes
Assignment:	The teacher asked the students to mention the factors affecting demand for labour	The students copied the assignments	

LESSON IV

School:.....

Class: Senior Secondary School Two (SSS II)

Topic: LABOUR MARKET

Sub topic: Concept of labour force, demand for labour, factors affecting demand for labour.

Duration: 90 minutes

Instructional Materials: A pictorial chart showing labour union protest.

Entry Behaviour: Students are aware of the effects of over-population in the country.

Behavioural Objectives: At the completion of the lesson, the students should be able to:

- i. define labour market
- ii. explain the concept of labour force
- iii. state the factors affecting the demand for labour.

Stages	Teachers activities	Student activities	Duration
Stage 1	The teacher introduces the concept of labour market to the students as a market in which buyers and sellers of labour are in close contact during which the wages and other conditions of services are determined and agreed upon. While labour force can be describe as the whole figure of persons available to supply the labour for the production of economic goods and services. Demand for labour is defined as the total number of workers; employers are willing and are ready to be employed. Factors affecting demand for labour are the size of market, number of industries, price of labour etc.	The students listen and watch how the teacher presents the lesson.	25 min

Stage 2	The teacher organizes the students into groups whose members are heterogeneous to discuss the lesson being taught.	The students work collaboratively in their groups in order to accomplish the shared goals.	25 min
Stage 3	The teacher organizes the students into groups whose members are heterogeneous to discuss the lesson being taught.	The student takes individual quizzes. Students are not allowed to assist each other during the test.	20 minutes
Stage 4	The teacher goes round to take note of activities in various teams and award scores individually and collectively as a team. He sees to their levels of improvement.	Students watch keenly	5 min
Stage 5	Teacher recognizes teams that perform well and appraise them with awards.	Students watch and get encouraged and motivated.	10 min
Stage 6 Conclusion	The teacher recapitulates the lesson	The students note their strengths and weaknesses	5minutes
Assignment:	The teacher asked the students to discuss the factors affecting mobility of labour	The students copied the Assignment	

LESSON V

School:.....

Class: Senior Secondary School Two (SSS II)

Topic: LABOUR MARKET

Sub-Topic: supply of labour, mobility of labour, type of mobility of labour

Duration: 90 minutes

Instructional Materials: A pictorial chart showing labour union protest.

Entry Behaviour: Students are familiar with the concept of labour force

Behavioural Objectives: At the end of the lesson, the students should be able to:

- i .define supply of labour
- ii. explain the concept of mobility of labour
- iii. mention forms of mobility of labour
- iv itemize factors affecting mobility of labour

Stages	Teachers activities	Student activities	Duration
Stage 1 Presentation	The teacher defines supply of labour as the total number of people of working age offered for employment at a particular time and at a given wage rate. Mobility of labour can be defined as the ease with which labour can move from one geographical area to another or from one occupation to another. Forms of mobility of labour are geographical and occupational mobility of labour. Factors affecting mobility of labour are cost and length of training, ability	The students listen and watch how the teacher presents the lesson	25 min

	or aptitude, personal reasons etc.		
Stage 2	The teacher organizes the students into groups whose members are heterogeneous to discuss the lesson being taught.	The students work collaboratively in their groups in order to accomplish the shared goals.	25 min
Stage 3 Evaluation	The teacher organizes the students into groups whose members are heterogeneous to discuss the lesson being taught.	The student takes individual quizzes. Students are not allowed to assist each other during the test.	20 min
Stage 4	The teacher goes round to take note of activities in various teams and award scores individually and collectively as a team. He sees to their levels of improvement.	Students watch keenly.	5 min
Stage 5	Teacher recognizes teams that perform well and appraise them with awards.	Students watch and get encouraged and motivated.	10
Stage 6 Conclusion	Teacher recapitulates the lesson	The students note their strengths and weaknesses	5 minutes
Assignment:	The teacher asked the students to define the concept of unemployment	The students copied the assignment	

APPENDIX V

TEACHING PACAKAGE FOR THE CONTROL GROUP

Duration: 90 minutes

Instructional Materials: A chart showing the demography of Kogi state.

Entry Behaviour: Students already have an idea of the population estimate of Nigeria.

Behavioural Objectives: At the end of the lesson, it is hoped that the students should be able to:

- i. define population
- ii. explain population census
- iii. differentiate between population and population census
- iv. make a list of determinants of population size and growth

School:.....

Class: Senior Secondary School Two (II)

Stages	Teachers activities	Student activities	Duration
Stage 1 Introduction	The teacher introduces the lesson by asking students to explain what they understand by the the word population, population census.	Students react to teacher question, by defining population as the total number of people living within a country..	10 minutes
Stage 2 Presentation	Teacher explains what population census is as the head count of all nation of a country at a particular time	Students listen and make note to correct any previous misconception about the topic	10 minutes
Stage 3 Clarification	The Teacher presents the subject matter by defining the concept of population to the whole students in the class.	Students listen and may make comment to amplify or clarify points already raised by the teacher.	35minutes

	Teacher defines population as the total number of people living in a country or geographical area and population census as the head count of all nationals of a country at a particular time. Characteristics of a good population census include: physical counting of people rather than by proxy. Conducting the population census at the same time throughout the country etc. Types of population census are Defacto and De jure population census. The teacher clarifies the determinants of population size and growth as follows: a. birth rate; the birth rate of a country refers to the rate at which children are being given birth rate to in that country. General, high birth rate may lead to increase in population or over population while low birth rate can lead to low population. b. death rate; Death rate [or mortality rate]of a country refers to the rate at which people [both adult and children] die in a country. Generally, high death rate leads to population decrease or low population, while low death rate leads to increase in population.	
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Stage 4 Evaluation	Teacher attempts to assess the lesson taught by asking students to respond to pertinent questions related to population.	Students react to teacher's questions. Students may ask their own questions.	20 min
Stage 5 Conclusion	Teacher recapitulates the lesson	The students listen.	15 minutes
Assignment	The teacher asks the students to mention the advantages and disadvantages of large population.	The students copy the assignment	

LESSON II

School:.....

Class: Senior Secondary School Two (SSS II)

Topic: POPULATION

Sub Topic: Population Density, Ageing Population, advantages and disadvantages of large population.

Duration: 90 minutes

Instructional Materials: A chart showing the demography of Kogi state.

Entry Behaviour: Students already have an idea of the definition of population and population census.

Behavioural Objectives: At the end of the lesson through Jigsaw teaching strategy, the students should be able to:

- i. compare population density of some geographical areas
- ii. illustrate an ageing population
- iii. evaluate the implications of a large population

Stages	Teachers activities	Student activities	Duration
Stage 1	The teacher introduces the lesson by asking the student meaning of population density and Ageing population.	Student react to teacher question by defining population density.	10 min
Stage 2	Teacher explains what population density is the number of persons per square kilometer of land	Students listen and make note to correct any previous misconception about the topic	10 min
Stage 3	The teacher defines population density to the students as the number of persons per square kilometer of land. Population density may be high or low depending on a number of people in a specific area or country. While ageing population is defined as a declining population with an increasing percentage of old people. Advantages of	. The students listen and watch how the teacher presents the lesson.	35 minutes

	large population include: Large Labour: High population provides large labour force for the industries. Large Market: High population is a source of large market for the goods produced by the industries. Urbanization: Areas of large population do lead to urbanisation etc. Conversely, the disadvantages are pressure on natural resources, insufficient food, unemployment etc.		
Stage 4 Evaluation	Teacher attempts to assess the lesson taught by asking students to respond to pertinent questions related to population density	Students react to teacher's questions. Students may ask their own questions.	20 min
Stage 5 Conclusion	Teacher recapitulates the lesson	The students listen.	15 minutes
Assignment:	The teacher asked the students to differentiate between Malthusian Population Theory and Demographic Transition Theory	The students copied the assignment	

LESSON III

School:.....

Class: Senior Secondary School Two (SSS II)

Topic: POPULATION

Sub Topic: Over-population, Under-population, Optimal Population, Malthusian population theory and Demographic transition theory.

Duration: 90 minutes

Instructional Materials: A card board showing types of population.

Entry Behaviour: Students have knowledge about ageing population, large population and population density.

Behavioural Objectives: At the end of the lesson, the students should be able to:

- i. distinguish between overpopulation and under-population
- ii. define optimal population
- iii. defend and criticize Malthusian population theory and Demographic transition theory.

Stages	Teachers activities	Student activities	Duration
Stage 1	The teacher introduces the lesson by asking the student meaning of over population and under population.	Student react to teacher question by defining over population and under population.	10 min
Stage 2 Presentation	Teacher explains what over population is as a situation where a country has more people than it physical resources..	Students listen and make note to correct any previous misconception about the topic	10 minutes
Stage 3 Clarifications	The teacher defines over-population to the students as a situation where a country has more people than it The students listen and watch how the teacher presents the lesson. physical and human resources can support with adequate living standards. While under-population may be defined as a type of population that is less than the available resources of a country. Optimum population can be defined as a type of population which when combined with the available resources and the given level of existing technology secure a maximum return per head.	. The students listen and watch how the teacher presents the lesson.	35minutes

	The teacher further explains Malthusian population theory and Demographic transition theory.		
Stage 4	Teacher attempts to assess the lesson taught by asking students to respond to pertinent questions related to over population etc.	Students react to teacher's questions. Students may ask their own questions.	20 min
Stage 5 Conclusion	Teacher recapitulates the lesson	The students listen.	15minutes
Assignment:	The teacher asked the students to discuss the factors affecting mobility of labour.	The students copied the assignment	

LESSON IV

Class: Senior Secondary School Two (SSS II)

Topic: LABOUR MARKET

Sub topic: Concept of labour force, demand for labour, factors affecting demand for labour.

Duration: 90 minutes

Instructional Materials: A pictorial chart showing labour union protest.

Entry Behaviour: Students are aware of the effects of over-population in the country.

Behavioural Objectives: At the end of the lesson, the students should be able to:

- i. define labour market
- ii. explain the concept of labour force
- iii. state the factors affecting the demand for labour.

Stages	Teachers activities	Student activities	Duration
Stage 1	The teacher introduces the lesson by asking the student what labour market is	Student react to teacher question by defining labour market.	10 min
Stage 2	Teacher explains labour as a market in which buyers and sellers of labour are in close contact during which the wages and other condition of services are determined and	Students listen and make note to correct any previous misconception about the topic	10 min
Stage 3	The teacher introduces the concept of labour market to the students as a market in which buyers and sellers of labour are in close contact during which the wages and other conditions of services are determined and agreed upon. While labour force can be defined as the total number of persons available to supply the labour for the production of economic goods and services. Demand for labour is defined as the total number of	. The students listen and watch how the teacher presents the lesson.	35 minutes

	workers, employers are willing and are ready to be employed. Factors affecting demand for labour are the size of market, number of industries, price of labour etc.		
Stage 4	Teacher attempts to assess the lesson taught by asking students to respond to pertinent questions related to labour.	Students react to teacher's questions. Students may ask their own questions.	20 min
Stage 5 Conclusion	Teacher recapitulates the lesson	Students listen	15 minutes
Assignment.	The teacher asked the students to discuss the factors affecting mobility of labour.	The students copied the assignment	

LESSON V

School:.....

Class: Senior Secondary School Two (SSS II)

Topic: LABOUR MARKET

Sub-Topic: supply of labour, mobility of labour, type of mobility of labour

Duration: 90 minutes

Instructional Materials: A pictorial chart showing labour union protest.

Entry Behaviour: Students are familiar with the concept of labour force

Behavioural Objectives: At the end of the lesson, the students should be able to:

- i .define supply of labour
- ii. explain the concept of mobility of labour
- iii. mention forms of mobility of labour
- iv itemize factors affecting mobility of labour

Stages	Teachers activities	Student activities	Duration
Stage 1 Introduction	The teacher introduces the lesson by asking the student what labour market is	Student react to teacher question by defining labour market.	10 min
Stage 2 Presentation	Teacher explains labour as a market in which buyers and sellers of labour are in close contact during which the wages and other condition of services are determined and	Students listen and make note to correct any previous misconception about the topic	10 min

Stage 3 Clarification	The teacher defines supply of labour as the total number of people of working age offered for employment at a particular time and at a given wage rate. Mobility of labour can be defined as the ease with which labour can move from one geographical area to another or from one occupation to another. Forms of mobility of labour are geographical and occupational mobility of labour. Factors affecting mobility of labour are cost and length of training; some professions are costly to train in terms of time and money, eg. The medical profession. Ability or Aptitude; some jobs require natural ability or talents and those that are not gifted cannot fit into such jobs e.g. Musician. Employment prospect/ age; After a certain age [e.g. 45 years] employers will not engage such people. They have poor prospects for an employer as they only have short working life. etc.	The students listen and watch how the teacher presents the lesson	35 minutes
Stage 4	Teacher attempts to assess the lesson taught by asking students to respond to pertinent questions related to labour.	Students react to teacher's questions. Students may ask their own questions.	20 min
Stage 5 Conclusion	Teacher recapitulates the lesson	Students listens	15 minutes
Assignment	The teacher asked the students to define the concept of unemployment.	The students copy the assignment	

APPENDIX VI **TIMELINE**

NAME: -VICTOR-AKINYEMI, Helen Bidemi, Matric No.: 99/25OC186

TITLE: - EFFECTS OF JIGSAW II AND STUDENTS TEAM-ACHIEVEMENT DIVISION ON SECONDARY SCHOOL STUDENTS' ECONOMICS PERFORMANCE IN OKENE, NIGERIA

Student start in November 2014	01/11/14	01/12/15	01/01/16	01/02/15	01/03/16	01/04/16	01/05/16	01/06/16	01/07/16	01/08/16	01/09/16	01/10/16	01/11/16	01/12/16	01/01/17	01/02/17	01/03/17	01/04/17	01/05/17	01/06/17	01/07/17	01/08/17	01/09/17	01/10/17	01/11/17	01/12/17	01/01/18	01/02/18	01/03/18	01/04/18
Task	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Survey of literature																														
Writing of proposal with course work																														
Gather data with course work																														
Thesis writing																														
Write introduction																														
Revise introduction																														



[illegible]

APPENDIX VII

BUDGET

The following are the estimated amount to be spent on the project

S/N	ITEMS	COST
1	Stationary	₦160,000.00
2	Test	₦260,000.00
3	Test Administration	₦180,000.00
4	Travelling Expenses	₦120,000.00
5	Equipment: Laptop and Printer	₦350,000.00
6	Literature Review	₦205,000.00
7	Printing Materials, Analysis, Binding and others	₦150,000.00
8	Miscellaneous Expenses	₦150,000.00
9	3 Research Assistance @ ₦3,000 per day	₦320,000.00
	TOTAL	₦1,895,000.00

APPENDIX VIII

LETTER OF INTRODUCTION FROM THE DEPARTMENT

UNIVERSITY OF ILORIN, ILORIN, NIGERIA
DEPARTMENT OF SOCIAL SCIENCES EDUCATION
FACULTY OF EDUCATION

Head:
Dr. (Mrs) B. O. Olawuyi
B. Ed., M. Ed. (Rhetoric)
Ph.D. (History)
08032232240
b.olawuyi@unilorin.edu.ng

Phone & Telegrams: UNILORIN
Tel: 08122168 UNILORIN NG
Telegrams: 081221681-4 E.O. 754
Direct Line: 08122168
e-mail: b.olawuyi@unilorin.edu.ng

Chair Ref: _____ Your Ref: _____ Date: 20/1/2022

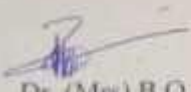
TO WHOM IT MAY CONCERN

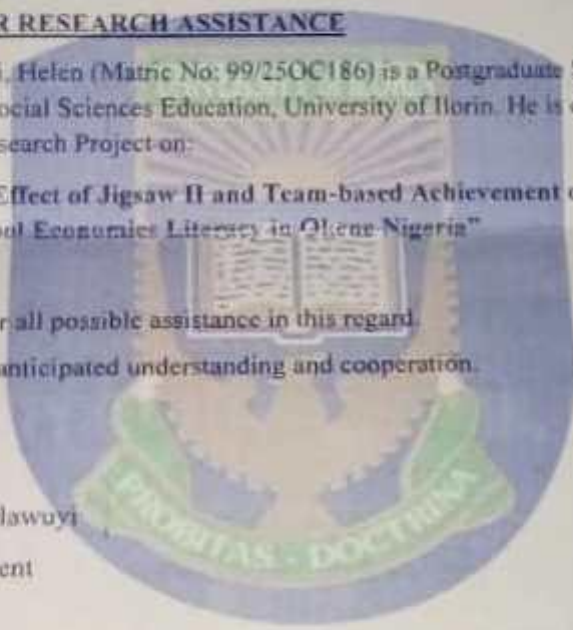
REQUEST FOR RESEARCH ASSISTANCE

Victor-Akinyemi, Helen (Matric No: 99/25OC186) is a Postgraduate Student of the Department of Social Sciences Education, University of Ilorin. He is currently undergoing a Research Project on:

"Comparative Effect of Jigsaw II and Team-based Achievement on Senior Secondary School Economics Literacy in Olorun Nigeria"

Kindly render her all possible assistance in this regard.
Thanks for your anticipated understanding and cooperation.


Dr. (Mrs) B.O. Olawuyi
Head of Department



Professors in the Department: PROF. C. O. DARAMOLA, PROF. O. E. ABDULLAHI,
PROF. (MRS) F. A. O. OLASEHINDE-WILLIAMS, PROF. (MRS.) A. A. JEKAYINFA

APPENDIX IX

ETHICAL CERTIFICATE

UNIVERSITY OF ILORIN, ILORIN, NIGERIA
UNIVERSITY ETHICAL REVIEW COMMITTEE

Vice Chancellor: Prof. S.A. Abdulkareem
B.ChE, M.ChE, (Detroit); Ph.D. (Louisville),
MNAICH, MNSE, MACS, R.Eng. (COREN).
Registrar: Dr. (Mrs) F.M. Olowolani
B.Sc (Zaria); MBA, M.Sc. PGDE (Ilorin)

E-mail: P.M.B. 1515, Ilorin
uerc@unilorin.edu.ng
unilorin.uerc@gmail.com
ethicalreview.unilorin.edu.ng
Website: www.unilorin.edu.com

Our Ref: *UIL/UERC/99/25OC186* Date: *8th August, 2019*

Protocol Identification Code: UERC/EDU/341
UERC Approval Number: UERC/ASN/2019/1841

EFFECTS OF JIGSAW II AND STUDENTS TEAM-ACHIEVEMENT DIVISION ON SECONDARY SCHOOL STUDENTS' ECONOMICS PERFORMANCE IN OKENE, NIGERIA

Name of applicant/Principal Investigator: VICTOR-AKINYEMI, Helen Bidemi
Address of Applicant: Department of Social Sciences Education,
Faculty of Education,
University of Ilorin, Ilorin.

Type of Review: Full Committee Review
Date of Approval: 08/08/2019

Notice of Full Committee Approval

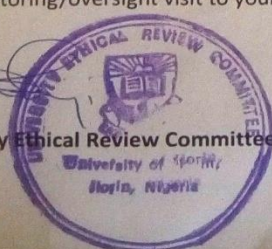
I am pleased to inform you that the research described in the submitted proposal has been reviewed by the University Ethical Review Committee (UERC) and given full Committee approval.

This approval dates from 08/08/2019 to 07/08/2022, and there should be no participant accrual or any activity related to this research to be conducted outside these dates.

You are requested to inform the committee at the commencement of the research to enable it appoints its representative who will ensure compliance with the approved protocol. If there is any delay in starting the research, please inform the UERC so that the dates of approval can be adjusted accordingly.

The UERC requires you to comply with all institutional guidelines and regulations and ensure that all adverse events are reported promptly to the UERC. No charges are allowed in the research without prior approval by the UERC. Please note that the UERC reserves the right to conduct monitoring/oversight visit to your research site without prior notification.

Thank You,
Ismaila Isah
For: University Ethical Review Committee



"...If it's not ethical, it's not scientific, if it's not scientific it's not ethical"

APPENDIX X

UNIVERSITY OF ILORIN, ILORIN, NIGERIA POSTGRADUATE SCHOOL

Vice-Chancellor:
Prof. S. A. Abdulkareem
B.ChE (Detroit); Ph.D. (Louisville);
MNAICH; MNSE; MACS; R.Eng (COREN)

Zahra Ishawo-Iaji House



P.M.B. 1515, Ilorin, Nigeria
Website: www.unilorin.edu.ng
Tel: +2349030924197
+2348111141632
E-mail: pgschool@unilorin.edu.ng

Dear:
Prof. R. A. Bello
B.Sc., M.Sc., Ph.D.; Economics (ABU)
MNES; NHEA

UIL/PGS/42

22nd January, 2020

VICTOR-AKINYEMI, Helen Bidemi
Matric. No: 95/25OC186
Department of Social Sciences Education
Faculty of Education
University of Ilorin
Ilorin.

Dear Victor-Akinyemi,

APPROVAL OF DOCTORAL RESEARCH PROTOCOL

I am pleased to inform you that, the Board of Postgraduate School at its 286th Meeting held on Wednesday 18th December, 2019 considered and approved your Doctoral Research Protocol titled:

**Effects of Jigsaw II and Students' Team-Achievement
Division on Senior School Students' Economics Performance
in Okene, Nigeria**

You are therefore, to proceed with your Ph.D. programme accordingly, please

Congratulations.

Yours sincerely,

M.A. Alfania
Secretary, Postgraduate School

MA/AJ

APPENDIX XI ANALYSIS OUTPUT (IBM SPSS 23.0)

Frequencies

Notes		
Output Created		15-SEP-2019 05:01:18
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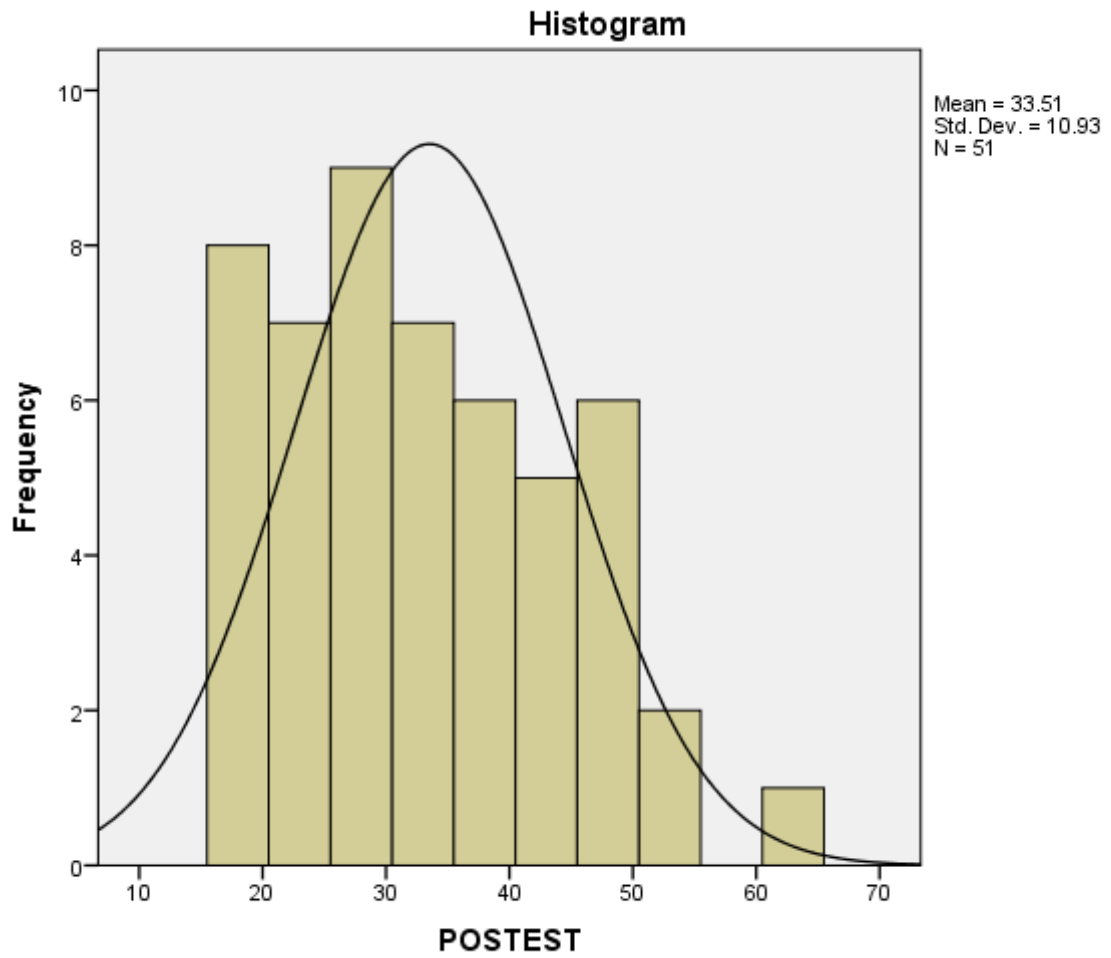
POSTEST

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Skewness		.470
Std. Error of Skewness		.333
Minimum		18
Maximum		61

POSTEST

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18	3	5.9	5.9	5.9
20	5	9.8	9.8	15.7
22	1	2.0	2.0	17.6
23	1	2.0	2.0	19.6
24	4	7.8	7.8	27.5
25	1	2.0	2.0	29.4
26	2	3.9	3.9	33.3
28	1	2.0	2.0	35.3
30	6	11.8	11.8	47.1
31	1	2.0	2.0	49.0
32	2	3.9	3.9	52.9
33	2	3.9	3.9	56.9
34	2	3.9	3.9	60.8
36	2	3.9	3.9	64.7
37	1	2.0	2.0	66.7
40	3	5.9	5.9	72.5
42	1	2.0	2.0	74.5
43	2	3.9	3.9	78.4
44	2	3.9	3.9	82.4
46	2	3.9	3.9	86.3

48	2	3.9	3.9	90.2
49	2	3.9	3.9	94.1
53	1	2.0	2.0	96.1
55	1	2.0	2.0	98.0
61	1	2.0	2.0	100.0
Total	51	100.0	100.0	



Notes

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Frequencies

Notes

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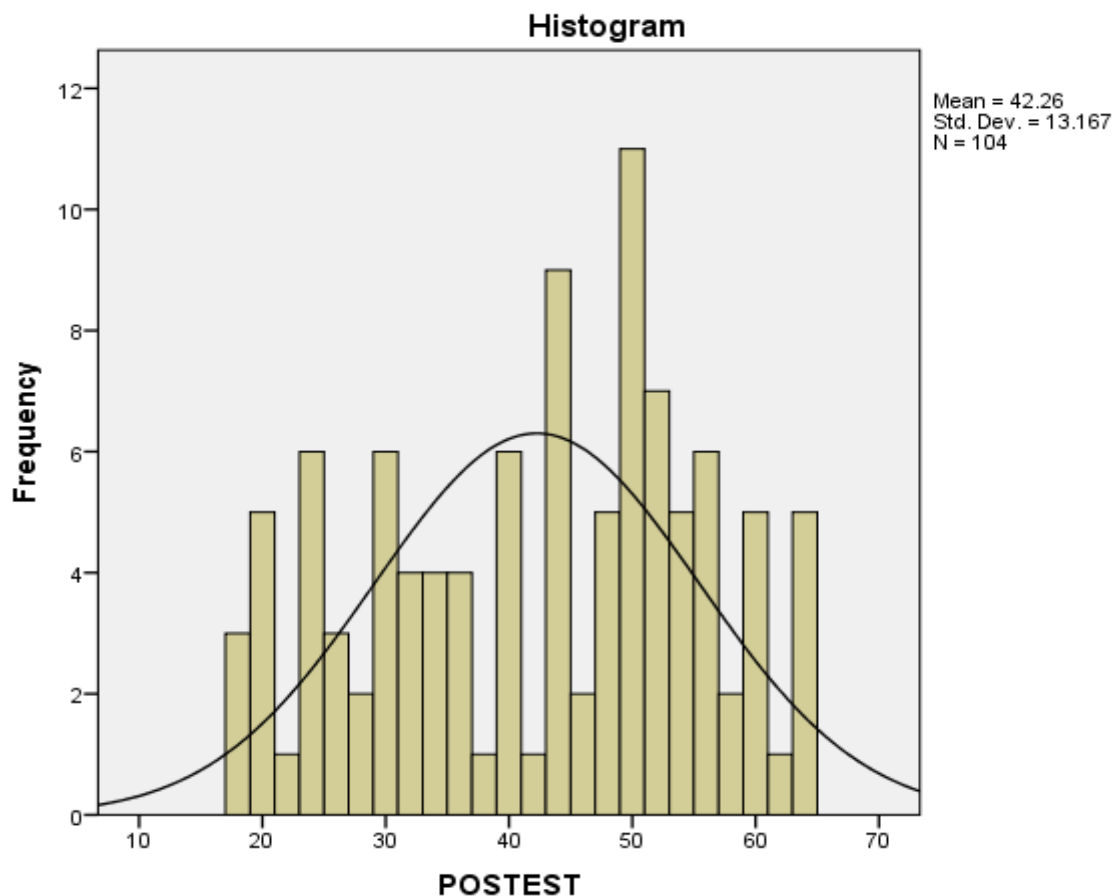
Statistics

POSTEST

N	Valid	104
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Std. Deviation		13.167
Skewness		-.235
Std. Error of Skewness		.237
Minimum		18
Maximum		64

POSTEST

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18	3	2.9	2.9	2.9
20	5	4.8	4.8	7.7
22	1	1.0	1.0	8.7
23	1	1.0	1.0	9.6
24	5	4.8	4.8	14.4
25	1	1.0	1.0	15.4
26	2	1.9	1.9	17.3
28	2	1.9	1.9	19.2
30	6	5.8	5.8	25.0
31	1	1.0	1.0	26.0
32	3	2.9	2.9	28.8
33	2	1.9	1.9	30.8
34	2	1.9	1.9	32.7
36	4	3.8	3.8	36.5
37	1	1.0	1.0	37.5
40	6	5.8	5.8	43.3
42	1	1.0	1.0	44.2
43	2	1.9	1.9	46.2
44	7	6.7	6.7	52.9
46	2	1.9	1.9	54.8
48	5	4.8	4.8	59.6
49	2	1.9	1.9	61.5
50	9	8.7	8.7	70.2
52	7	6.7	6.7	76.9
53	1	1.0	1.0	77.9
54	4	3.8	3.8	81.7
55	1	1.0	1.0	82.7
56	5	4.8	4.8	87.5
58	2	1.9	1.9	89.4
60	5	4.8	4.8	94.2
61	1	1.0	1.0	95.2
64	5	4.8	4.8	100.0
Total	104	100.0	100.0	



```

DATASET ACTIVATE DataSet3.
DATASET CLOSE DataSet14.
DATASET ACTIVATE DataSet13.
FREQUENCIES VARIABLES=POSTEST
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN SKEWNESS SESKEW
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.

```

Frequencies

Notes		
Output Created		15-SEPT-2019 05:06:03
Comments		
Input	Data	C:\Users\Oladele\Documents\2019\PG\SIS HELEN\ANALYSIS\EX2_STAD.sav
	Active Dataset	DataSet13
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	93
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=POSTEST /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN SKEWNESS SESKEW /HISTOGRAM NORMAL /ORDER=ANALYSIS.
Resources	Processor Time	00:00:01.34
	Elapsed Time	00:00:01.17

[DataSet13] C:\Users\Oladele\Documents\2019\PG\SIS HELEN\ANALYSIS\EX2_STAD.sav

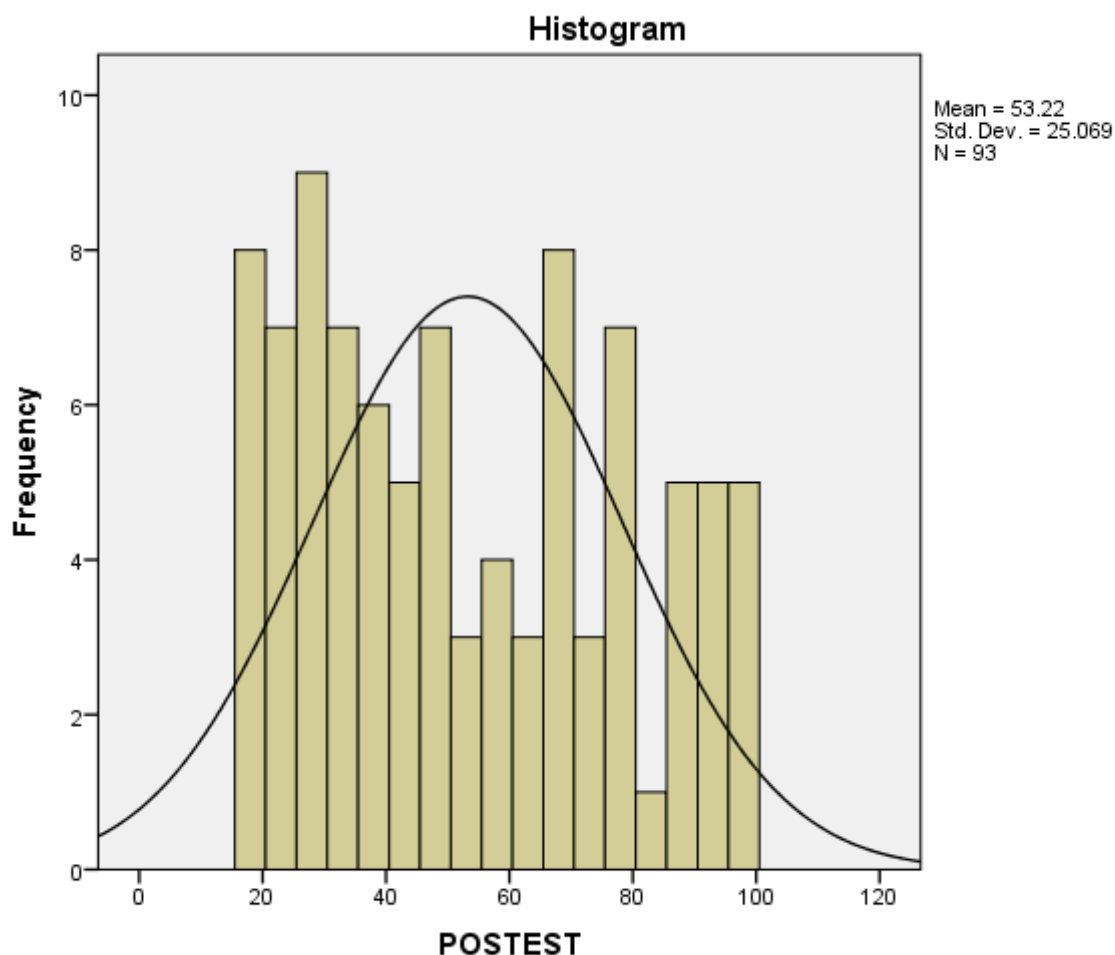
Statistics

POSTEST

N	Valid	93
	Missing	0
Mean		53.22
Std. Deviation		25.069
Skewness		.305
Std. Error of Skewness		.250
Minimum		18
Maximum		100

POSTEST

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18	3	3.2	3.2	3.2
20	5	5.4	5.4	8.6
22	1	1.1	1.1	9.7
23	1	1.1	1.1	10.8
24	4	4.3	4.3	15.1
25	1	1.1	1.1	16.1
26	2	2.2	2.2	18.3
28	1	1.1	1.1	19.4
30	6	6.5	6.5	25.8
31	1	1.1	1.1	26.9
32	2	2.2	2.2	29.0
33	2	2.2	2.2	31.2
34	2	2.2	2.2	33.3
36	2	2.2	2.2	35.5
37	1	1.1	1.1	36.6
40	3	3.2	3.2	39.8
42	1	1.1	1.1	40.9
43	2	2.2	2.2	43.0
44	2	2.2	2.2	45.2
46	2	2.2	2.2	47.3
48	3	3.2	3.2	50.5
49	2	2.2	2.2	52.7
52	1	1.1	1.1	53.8
53	1	1.1	1.1	54.8
55	1	1.1	1.1	55.9
56	1	1.1	1.1	57.0
60	3	3.2	3.2	60.2
61	1	1.1	1.1	61.3
64	2	2.2	2.2	63.4
66	1	1.1	1.1	64.5
68	6	6.5	6.5	71.0
70	1	1.1	1.1	72.0
72	3	3.2	3.2	75.3
76	5	5.4	5.4	80.6
78	1	1.1	1.1	81.7
80	1	1.1	1.1	82.8
84	1	1.1	1.1	83.9
88	4	4.3	4.3	88.2
90	1	1.1	1.1	89.2
92	5	5.4	5.4	94.6
96	2	2.2	2.2	96.8
100	3	3.2	3.2	100.0
Total	93	100.0	100.0	



```

DATASET ACTIVATE DataSet3.
DATASET CLOSE DataSet13.
DATASET ACTIVATE DataSet8.
GET
  FILE='C:\Users\Oladele\Documents\2019\PG\SIS HELEN\ANALYSIS\EX1_JIG.sav'.

```

Warning # 5281. Command name: GET FILE
 SPSS Statistics is running in Unicode encoding mode. This file is encoded in a locale-specific (code page) encoding. The defined width of any string variables are automatically tripled in order to avoid possible data loss. You can use ALTER TYPE to set the width of string variables to the width of the longest observed value for each string variable.

```

DATASET NAME DataSet15 WINDOW=FRONT.
UNIANOVA POSTEST BY GROUPS WITH PRETEST
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /EMMEANS=TABLES(OVERALL) WITH(PRETEST=MEAN)
  /PRINT=DESCRIPTIVE
  /CRITERIA=ALPHA(.05)
  /DESIGN=PRETEST GROUPS.

```

Univariate Analysis of Variance

		Notes
Output Created		15-OCT-2019 05:07:49
Comments		
Input	Data	C:\Users\Oladele\Documents\2019\PG\SIS HELEN\ANALYSIS\EX1_JIG.sav

Missing Value Handling	Active Dataset	DataSet15
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax	N of Rows in Working Data File	104
	Definition of Missing	User-defined missing values are treated as missing.
Resources	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
		UNIANOVA POSTEST BY GROUPS WITH PRETEST
		/METHOD=SSTYPE(3)
		/INTERCEPT=INCLUDE
Processor Time		/EMMEANS=TABLES(OVERALL)
		WITH(PRETEST=MEAN)
		/PRINT=DESCRIPTIVE
		/CRITERIA=ALPHA(.05)
Elapsed Time		/DESIGN=PRETEST GROUPS.
		00:00:00.06
		00:00:00.11

[DataSet15] C:\Users\Oladele\Documents\2019\PG\SIS HELEN\ANALYSIS\EX1_JIG.sav

Between-Subjects Factors

		Value Label	N
GROUPS	1	Control	51
	2	Jigsaw II	53

Descriptive Statistics

Dependent Variable: POSTEST

GROUPS	Mean	Std. Deviation	N
Control	33.51	10.930	51
Jigsaw II	50.68	9.012	53
Total	42.26	13.167	104

Tests of Between-Subjects Effects

Dependent Variable: POSTEST

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7836.637 ^a	2	3918.318	39.491	.000
Intercept	8400.871	1	8400.871	84.668	.000
PRETEST	174.939	1	174.939	1.763	.187
GROUPS	7714.142	1	7714.142	77.747	.000
Error	10021.354	101	99.221		
Total	203589.000	104			
Corrected Total	17857.990	103			

a. R Squared = .439 (Adjusted R Squared = .428)

Estimated Marginal Means

Grand Mean

Dependent Variable: POSTEST

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
42.094 ^a	.977	40.156	44.032

a. Covariates appearing in the model are evaluated at the following values: PRETEST = 34.62.

DATASET ACTIVATE DataSet3.

DATASET CLOSE DataSet15.

GET

FILE='C:\Users\Oladele\Documents\2019\PG\SIS HELEN\ANALYSIS\EX2_STAD.sav'.

DATASET NAME DataSet16 WINDOW=FRONT.

UNIANOVA POSTEST BY GROUPS WITH PRETEST

/METHOD=SSTYPE(3)

/INTERCEPT=INCLUDE

/EMMEANS=TABLES(OVERALL) WITH(PRETEST=MEAN)

/PRINT=DESCRIPTIVE

/CRITERIA=ALPHA(.05)

/DESIGN=PRETEST GROUPS.

Univariate Analysis of Variance

Notes

Output Created		15-SEPT-2019 05:08:42
Comments		
Input	Data	C:\Users\Oladele\Documents\2019\PG\SIS HELEN\ANALYSIS\EX2_STAD.sav
	Active Dataset	DataSet16
	Filter	<none>
	Weight	<none>
	Split File	<none>
Missing Value Handling	N of Rows in Working Data File	93
	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		UNIANOVA POSTEST BY GROUPS WITH PRETEST
		/METHOD=SSTYPE(3)
		/INTERCEPT=INCLUDE
		/EMMEANS=TABLES(OVERALL) WITH(PRETEST=MEAN)
		/PRINT=DESCRIPTIVE
		/CRITERIA=ALPHA(.05)
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.08

[DataSet16] C:\Users\Oladele\Documents\2019\PG\SIS HELEN\ANALYSIS\EX2_STAD.sav

Between-Subjects Factors

		Value Label	N
GROUPS	1	CONTROL	51
	3	STAD	42

Descriptive Statistics

Dependent Variable: POSTEST

GROUPS	Mean	Std. Deviation	N
CONTROL	33.51	10.930	51
STAD	77.14	13.963	42
Total	53.22	25.069	93

Tests of Between-Subjects Effects

Dependent Variable: POSTEST

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	43995.312 ^a	2	21997.656	143.251	.000
Intercept	15437.265	1	15437.265	100.529	.000
PRETEST	145.501	1	145.501	.948	.333
GROUPS	43989.683	1	43989.683	286.466	.000
Error	13820.387	90	153.560		
Total	321177.000	93			
Corrected Total	57815.699	92			

a. R Squared = .761 (Adjusted R Squared = .756)

Estimated Marginal Means

Grand Mean

Dependent Variable: POSTEST

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
55.332 ^a	1.291	52.767	57.897

a. Covariates appearing in the model are evaluated at the following values: PRETEST = 34.46.

DATASET ACTIVATE DataSet3.

DATASET CLOSE DataSet16.

DATASET ACTIVATE DataSet8.

UNIANOVA POSTTEST BY GROUPS GENDER WITH PRETEST

/METHOD=SSTYPE(3)

/INTERCEPT=INCLUDE

/EMMEANS=TABLES(OVERALL) WITH(PRETEST=MEAN)

/PRINT=DESCRIPTIVE

/CRITERIA=ALPHA(.05)

/DESIGN=PRETEST GROUPS GENDER GROUPS*GENDER.

Univariate Analysis of Variance

Notes

Output Created		15-OCT-2019 05:09:17
Comments		
Input	Data	C:\Users\Oladele\Documents\2019\PG\SIS HELEN\ANALYSIS\HELEN_MASTER DATA2.sav
	Active Dataset	DataSet8
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	146
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		UNIANOVA POSTTEST BY GROUPS GENDER WITH PRETEST /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /EMMEANS=TABLES(OVERALL) WITH(PRETEST=MEAN) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /DESIGN=PRETEST GROUPS GENDER GROUPS*GENDER.
Resources	Processor Time	00:00:00.08
	Elapsed Time	00:00:00.13

[DataSet8] C:\Users\Oladele\Documents\2019\PG\SIS HELEN\ANALYSIS\HELEN_MASTER DATA2.sav

Between-Subjects Factors

		Value Label	N
GROUPS	1	CONTROL	51
	2	JIGSAW 11	53
	3	STAD	42
GENDER	1	Male	83
	2	Female	63

Descriptive Statistics

Dependent Variable: POSTTEST

GROUPS	GENDER	Mean	Std. Deviation	N
CONTROL	Male	34.53	12.061	34
	Female	31.47	8.163	17
	Total	33.51	10.930	51
JIGSAW 11	Male	50.14	9.007	29
	Female	51.33	9.168	24
	Total	50.68	9.012	53
STAD	Male	75.40	13.690	20
	Female	78.73	14.337	22
	Total	77.14	13.963	42
Total	Male	49.83	19.653	83
	Female	55.54	21.783	63
	Total	52.29	20.721	146

Tests of Between-Subjects Effects

Dependent Variable: POSTTEST

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	44332.094 ^a	6	7388.682	57.298	.000
Intercept	19899.990	1	19899.990	154.322	.000
PRETEST	24.410	1	24.410	.189	.664
GROUPS	42665.547	2	21332.773	165.433	.000
GENDER	12.517	1	12.517	.097	.756
GROUPS * GENDER	212.584	2	106.292	.824	.441

Error	17924.241	139	128.951		
Total	461525.000	146			
Corrected Total	62256.336	145			

a. R Squared = .712 (Adjusted R Squared = .700)

Estimated Marginal Means

Grand Mean

Dependent Variable: POSTTEST

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
53.617 ^a	.966	51.708	55.526

a. Covariates appearing in the model are evaluated at the following values: PRETEST = 34.45.

DATASET ACTIVATE DataSet3.

DATASET CLOSE DataSet8.

APPENDIX XII

SOME PICTURES FROM THE EXPERIMENTAL RESEARCH



A cross section of students in the Experimental Treatment Group 1



RESEARCHER GIVING INSTRUCTIONS TO STUDENTS AFTER GROUPING



STUDENTS IN EXPERIMENTAL GROUP 1 (EXPERT GROUPS)



A RESEARCH ASSISTANT MONITORING THE ACTIVITIES OF STUDENTS IN
THEIR EXPERT GROUP



STUDENTS IN EXPERIMENTAL GROUP I (EXPERT GROUP) RETURN BACK
TO THEIR HOME GROUPS



RESEARCH ASSISTANT GIVING A QUIZ FOR STUDENTS TO PERFORM



RESEARCHER GIVING INSTRUCTION TO STUDENTS IN EXPERIMENTAL GROUP II (STAD)



ONGOING GROUP DISCUSSION AMONG STUDENTS IN EXPERIMENTAL GROUP II



ONGOING GROUP DISCUSSION AMONG STUDENTS



STUDENT TAKING QUIZ GIVEN BY TEACHER



STUDENT TAKING QUIZ GIVEN BY TEACHER



STUDENTS IN THE CONTROL GROUP TAKING NOTES



LESSON V

School:.....

Class: Senior Secondary School Two (SSS II)

Topic: LABOUR MARKET

Sub-Topic: supply of labour, mobility of labour, type of mobility of labour

Duration: 90 minutes

Instructional Materials: A pictorial chart showing labour union protest.

Entry Behaviour: Students are familiar with the concept of labour force

Behavioural Objectives: At the completion of the lesson, the students should be able to:

- i .define supply of labour
- ii. explain the concept of mobility of labour
- iii. mention forms of mobility of labour
- iv itemize factors affecting mobility of labour

Stages	Teachers activities	Student activities	Duration
--------	---------------------	--------------------	----------

Stage 1 Introduction	The teacher defines supply of labour to the students in the Home group as the total number of people of working age offered for employment at a particular time and at a given wage rate. Mobility of labour can be defined as the ease with which labour can move from one geographical area to another or from one occupation to another. Forms of mobility of labour are geographical and occupational mobility of labour. Factors affecting mobility of labour are cost and length of training, ability or aptitude, personal reasons etc. He further explained to the students the steps involved in the instructional strategy to be used as follows: b. Students begin in their home groups; all students receive all information rather than only information relevant to the part of the topic. vi. Teacher divided the students into heterogeneous groups of 5 to 6 persons based on each sub-topic and taught each group accordingly in order to make experts of each groups. vii. The students brainstorm on the sub-topic given to them in their various expert groups. They jointly come up with relevant ideas and harmonise same within the groups. viii. Students return to their respective home groups and teach their group mates what they learnt from their expert groups.	Students listen attentively while still in the Home group.	10 min
-------------------------	--	--	--------

Stage 2	Teacher divided the students into heterogeneous groups of 5 to 6 persons based on each sub-topic; namely, concept of supply of labour, mobility of labour, forms of mobility of labour, factors affecting mobility of labour. She then taught each group accordingly in order to make experts of each groups.	Students in every of the Expert groups pay attention to the teacher.	25 min
Stage 3	When every of the expert groups were busy interacting, the teacher went round to monitor their activities	The students brainstorm on the sub-topic given to them in their various expert groups. They jointly come up with relevant ideas and harmonise same within the groups.	25 minutes
Stage 4	The teacher organize the student back to their home groups, this is done quietly and in a coordinated manner.	The students share the knowledge gained in the Expert groups look into them critically to see if it really falls in line with what they are to learn in the study.	5 min
Stage 5 Evaluation	The teacher gives quiz to the students	The students answer the quiz	20 minutes
Stage 6 Conclusion	The teacher sum up the lesson	The students note their strengths and weaknesses	5 minutes
Assignment	The teacher asked the students to define the term unemployment.	The students copied the assignment	

